Gleanings in Bee Culture

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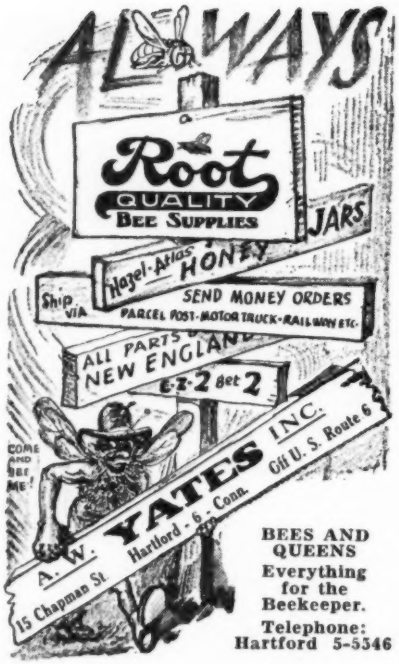

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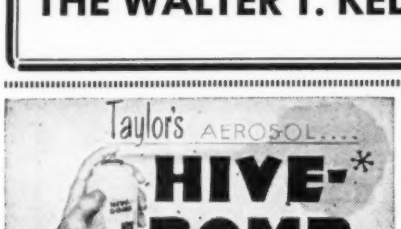

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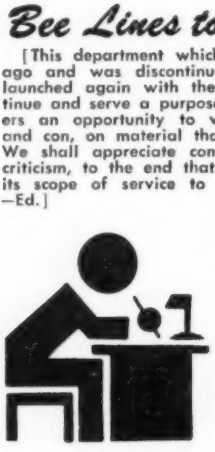
Bee Lines to The Editor

[This department which appeared a few years ago and was discontinued for a time is being launched again with the hope that it may continue and serve a purpose, viz., to give our readers an opportunity to voice their opinions, pro and con, on material that appears in our pages. We shall appreciate comments, even constructive criticism, to the end that Gleanings may increase its scope of service to the beekeeping industry —Ed.]



Concerning Stings of Honeybees

"I read with interest the article 'The Prevention of Severe Reactions Following Stings of the Honeybee'. However, there was one omission in the article which might cause some hypersensitive reader to go through all the needless discomfort and trouble I did.

"In effect, the article states that people who experience violent reactions after a bee sting are allergic to bee proteins. Quote: 'Such people are allergic or hypersensitive to bee protein. . . In other words, the venom had little or nothing to do with the allergic state.'

"The article implies that all 'hypersensitives' are allergic only to the bee protein. In truth, there are a number of people like myself who are allergic

(Continued on page 496)

Monthly HONEY Report

WALTER BARTH, Field Edi

THE SOUTH and southwest appears optimistic toward the honey flow. Texas beekeepers are getting a nice crop in many areas but the honey is very thin with the result that beekeepers want to move their product into marketing channels as fast as possible. Good Texas honey is bringing 12½ to 13 cents in 60 pound cans. If a fair Texas honey flow is realized the honey and beeswax market in this area will soften. Prices are certainly to be lower than last year.

The outlook in Oklahoma is good with honey plants in fine shape. The recent rains have slowed bee activity. Bees are in good shape in Arizona and New Mexico but both states need more rain if a fair crop is to be expected.

In Louisiana colonies are in normal condition and there is plenty of moisture but the crop is smaller than usual. Hurricane Audrey has undoubtedly done a lot of damage to beekeeping in this state with the possibility of throwing this state out of any serious honey honey production this year.

White clover has yielded well in Mississippi although an excess of rain hurt the crop. Bees and honey plants are doing well in Alabama, too. In Florida the gallberry flow is over. Conditions were good during the flow and good crops were obtained. At this writing the palmetto flow is on and the outlook is bright for a heavy flow. A good crop is being harvested in Tennessee, too. Prospects are fair for a sour wood flow in North Carolina. It is good to learn that an excellent flow is on in the Piedmont and coastal areas of this state.

The conditions in the Great Lakes states area vary greatly within each state. In Ohio where some feeding has been necessary honey plants are in good condition and in most areas of the state colonies are in shape for the flow. Conditions are very spotted in Indiana. In parts of Michigan beekeepers are enjoying a good honey flow. Conditions are advanced in Minnesota where honey started to come in fully ten days early.

In the Midwest, particularly around Iowa, good rains continue to come but not in excess. Soil is in excellent condition and plant development has been good. In Iowa yellow sweet clover started to bloom May 25th. Some white Dutch clover is coming into bloom at this writing. Bees are generally in good condition, some swarming has started and is expected to be heavy because of earlier confinement. Most of the honey in this area has been cleaned up.

In Colorado, Montana, and Wyoming bees are building up fast and hopes are high for a flow. A lot of feeding has been necessary. Honey plants are in good shape due to recent rains, and a lot of swarming is expected. The prospects for a flow in Utah are good, too, although the bees are barely making a living at this writing. Washington state has had its best spring build-up in years and hopes are high for a flow. It is unfortunate to learn that the local honey market in that state is still weak. Wild buckwheat is expected to yield a fair crop in California.

Going back east to Pennsylvania finds a good honey flow on. More rain is needed here, however. In New York conditions are spotted. Northern New York beekeepers are most hopeful for a crop. Bees in central and southern tier counties are barely holding their own at this time. New Jersey colonies are in excellent condition and very little swarming is reported. Proper moisture will insure a good crop in New England where honey is really in short supply. After the spring drought in this area a lot of rain is needed.

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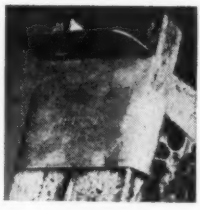

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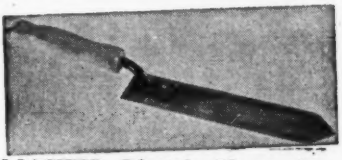

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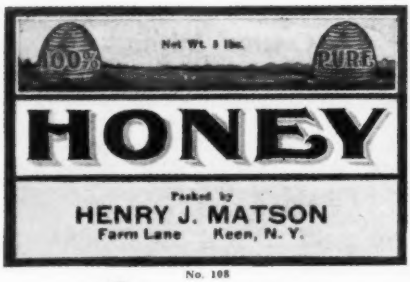

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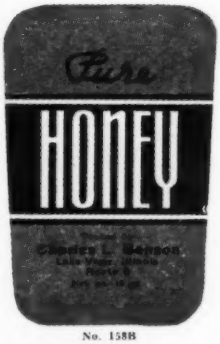

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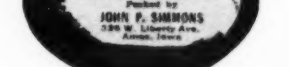

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Pollination of White Clover*

by NEVIN WEAVER, Assistant Professor,
Department of Entomology, Texas Agricultural Experiment Station

SUMMARY

AN EXPERIMENT was conducted in 1956 on the Rice-Pasture Experiment Station near Beaumont to determine the value of honeybees in the pollination of white clover.

Caged plots of white clover containing small colonies of bees yielded about seven times as much seed as plots caged to exclude bees.

Factors other than the amount of cross pollination appeared to limit seed yield in the plots that the bees could work.

WHITE CLOVER, often called white Dutch clover, is used extensively in the South as a pasture plant and for soil building in rotation with rice and other crops.

Fifteen plots 6 x 36 feet were established in a field of Louisiana white clover at the Rice-Pasture Experiment Station near Beaumont to determine whether the clover requires cross-pollination for maximum seed yield, and the extent to which honeybees pollinate it.

Cages 6 x 6 x 36 feet were constructed over 10 of the plots. Small colonies of bees were placed in five of the cages, and the other cages excluded bees and other pollinating insects from the clover. Five plots were left uncovered so that clover growing under natural field conditions could be compared with the caged clover.

Seed from one square yard of the clover from each plot are shown in Fig. 1, and the pounds per acre of No. 1 seed are given in Table 1. Plots caged with small colonies of bees averaged about seven times as much seed as those caged to keep out the bees. Since the presence or absence of bees was the only known difference in these plots, the seven-fold increase in seed yield was due to pollination by honeybees.

No insecticide was applied to these plots. Moths, butterflies, and other insects that live in the clover were fairly numerous, both inside and outside the cages. It appears, therefore, that these insects do little pollinating of white clover. Most of the seed produced in the cages without bees probably came from a few plants that were self-fertile, but some may have resulted from cross-pollination by the insects that lived in the clover, or from contact between blossoms of different plants.

Clover in the uncaged plots yielded slightly more seed than clover in the plots caged with bees. This appears to have been due to the effect of caging on the vigor of the plants. Virtually no other efficient pollinating insects were in the field, but there was an apiary at the edge of the field, and there were, apparently, enough honeybees to visit all of the blossoms before they withered. While foraging from white clover,

Texas Agricultural Experiment Station—The Texas A & M College System
R. D. Lewis, Director, College Station, Texas, February 8, 1957.

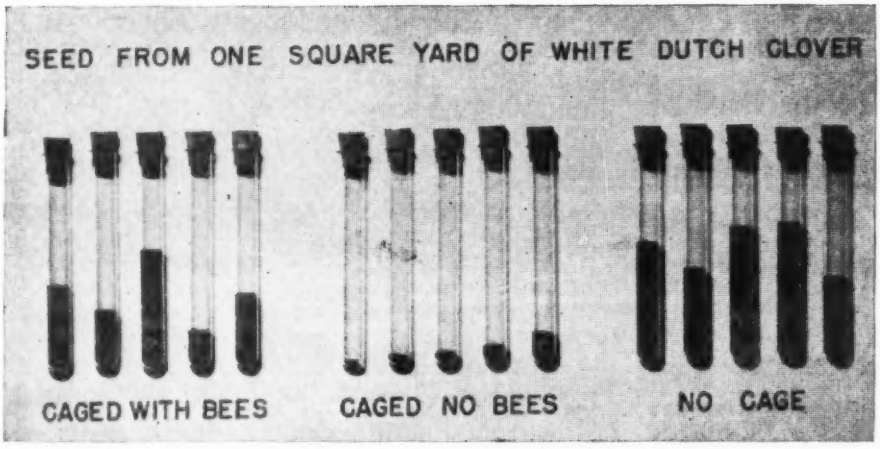


Fig. 1 Seed from one square yard of white clover from each 15 plots with pollination as shown.

Table 1. Pounds of White Clover Seed Per Acre in Each of 15 Plots with Pollination as shown.

Pollination	Pounds of seed per acre in plots					Average[1]
Caged with bees	98	63	139	36	76	82
Caged without bees	1	5	8	15	29	12
No cage	133	102	156	159	93	129

[1] A difference of 40 or more pounds per acre in the average yields indicates that the difference is statistically significant; a difference of 56 or more pounds, that the difference is highly significant.

the bees come in contact with the sexual columns of the blossoms, and pollen grains cling to the forked hairs on their heads and bodies. Since some of this pollen may brush off on the sticky female part of the flower, there is a chance that almost every blossom visited will be cross-pollinated.

White clover blossoms may remain open and fresh-looking for more than a week if they are not pollinated, but they begin to wither a few hours after being visited by a bee. An examination of the field will reveal whether adequate pollinating insects are visiting the clover. If there are open, fresh-looking blossoms from the bottom to the top of many of the flower heads, there are not enough bees in one field to pollinate the clover adequately. If many of the flower heads have a band of withered blossoms at the bottom, a band of buds at the top and about 20 or fewer open blossoms in between, adequate pollinators are present. After the blossoms have withered, it is impossible to tell whether they have been pollinated until seed development progresses far enough so that the larger seed can be counted. If conditions are proper for seed set, adequately pollinated clover should have about 75 seed per flower head. More than half the flower heads from clover that have not been visited by bees will contain no seed, but some will have up to about five seeds, and a few will have almost as many seeds as adequately pollinated clover.

The number of honeybees required to pollinate clover is affected by many factors. The most important are the number of other pollinating insects that visit the clover, the competition from other blossoms for the bees' visits, the percentage of time that the weather allows the bees to work, the vigor of the clover plants and the number of blossoms in the field.

Under ideal conditions, bees from a strong colony should be able to visit all of the blossoms open on any day in slightly more than three acres of the best stand of white clover. It probably would not be economical to attempt to obtain this saturation pollination, and

(Continued on page 494)

Packing Chunk Honey

by GEORGE REHMAN, North Baltimore, Ohio

Pieces of comb in a jar of liquid honey help to make it more appetizing.—Photo by T. Moreton.

TWENTY YEARS ago an attempt was made to put chunk honey, "a combination of comb and strained honey in jars" on the market but it did not seem to get its share of the consumer's buying dollar at that time.

Of course, much well produced section comb honey was then on the markets in competition with the chunk honey pack and the chunk honey packs did not equal the clean well-packed jars of chunk honey that are available today.

As the crops of honey seem to be less in pounds today in most honey-producing areas and the cost of producing section comb honey advances, chunk honey has again found its place in the markets, but many of these packs today are not so good, as there is a tendency to use cull honey for the comb as it looks like a good place to turn this cull honey into cash but you must remember a jar of chunk honey is only as good as the honey that goes into it.

The comb honey must be produced in all new comb using thin super foundation in clean supers and it must be stored free from dust, wax moths, and changing temperatures.

Before removing the comb honey from the bee hives any burr comb must be broken, giving the bees a chance to clean up any dripping honey because when stored, any dripping honey over the surface of the comb will granulate and cause the jar of chunk honey to granulate at a much earlier date after packing.

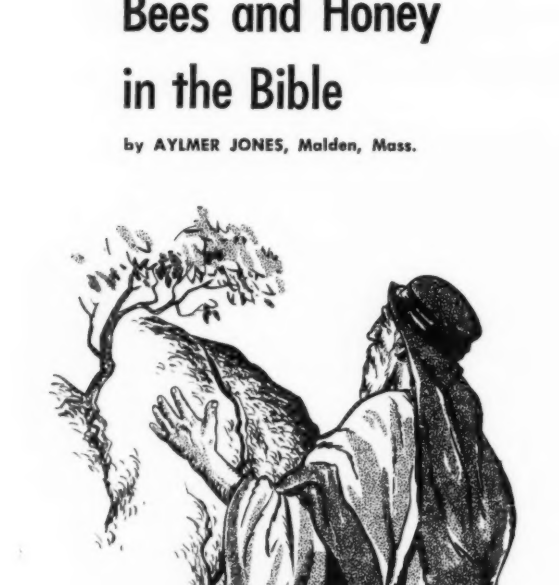
The strained honey that is poured over the comb in the jar must be free of air bubbles and any crystallized honey that will hasten granulation.

(Continued on page 507)

XUM

Bees and Honey in the Bible

by AYLMER JONES, Malden, Mass.



Honey was found in crevices of rocks.

SOME OF THE most amazing and intensely interesting stories of the Bible, indeed of all time, center around bees and honey—especially honey. It is well worth anyone's time to review some of these old familiar accounts.

The first book of the Bible[1], Genesis, deals with the creation, of course, together with early Hebrew history. In the 43rd chapter 11th verse, we read "Then their father Israel said to them, if it must be so then do this: take some of the choice fruits of the land in your bags and carry down to the man a present; a little balm, and a little honey, gum, myrrh, pistachio nuts and almonds". Jacob is sending his sons back to Joseph, taking with them his youngest and now favorite son Benjamin, as evidence of good faith in the quest for succor from famine. Thus honey was early recognized as a choice gift.

In Exodus is the first of many appearances of the best known Biblical reference to honey. Exodus, as its name implies, deals with the persecuted tribes of Israel leaving Egypt for a land more hospitable to their race, religion, and habits. Moses, who became their great leader, had given thought to his peoples' plight. In a dramatic vision, described in chapter 3, the angel of the Lord appeared in the guise of a burning bush, and in verses 8 and 17 said "and I have come down to deliver them out of the hand of the Egyptians and to bring

1. All quotations from Revised Standard Version of the Bible.

them up out of that land to a good and broad land, a land flowing with milk and honey". In that day and age there were few ordinary comforts of life and fewer luxuries. The Hebrews were nomadic to a great extent and practically carried their possessions on their backs. The only real wealth consisted of flocks of sheep and other livestock. Wild honey was the one sweet, and it was hard to get. There were few beekeepers. Small wonder that to impress Moses with the advantages of a new location and to persuade him to lead his people out of Egypt, the Lord in the vision said it would be a land of milk and honey. Other things were probably inferred, such as, life, liberty, and the pursuit of happiness. Milk and honey however were definitely emphasized. Thus began the greatest exodus or mass movement in history: an entire nation pulled up stakes and wandered for 40 years seeking the Promised Land—the land flowing with milk and honey.

It might be interesting to digress here for a moment, and from a beekeeper's viewpoint investigate the beekeeping possibilities today of what actually turned out to be the land flowing with milk and honey—Palestine. Brother Adam of Buckfast Abbey in England had this to say of Palestine:

> "Emphasis is placed on intensive rather than extensive beekeeping; the scarcity of timber, the high cost of imported hives and general economic conditions preclude any haphazard keeping of bees. The main honey crop is from the orange blossom. . . . At the end of April or early May the hives are taken from the orange groves in the coastal plain to the hills and mountains of Galilee to gather the second crop from the wild flowers, the most important being acacia, cactus, lavender, wild carrot, sage, thyme and a great variety of thistles . . . . Commercial beekeeping undoubtedly has a promising future in Palestine." (In Search of the Best Strains of Bee: Second Journey)

There is little reason to suppose the character of the countryside or the flora is much different today than it was in the time of Moses.

Other references in the Bible to bees, honey, and comb, are not all so easy to understand, so well known, nor so impressive, but they are numerous. It may come as a surprise to learn that according to one standard concordance there are 64 such references. This article can consider only a few of these references.

One interesting passage refers to honey found in crevices of rocks and occurs in Deuteronomy 32:13. "And He made him suck honey out of the rock". The most logical explanation of this passage is that the psalmist is describing a natural colony in a rock crevice and a way to obtain its honey.

Another rather strange reference appears in Judges 14:8 where Samson saw "a swarm of bees in the body of the lion and honey". Here is a case of a swarm apparently nesting in the skeleton of a lion. This was the same lion that Sampson had previously killed with his bare hands. The incident of the swarm just referred to caused Samson to propound one of the most famous riddles of all time, "Samson's Riddle". Judges 14:14 is the riddle: "And he said to them:

> 'Out of the eater came something to eat,

The first book of the Bible.

B & Z Library

Out of the strong came something sweet' ".

Judges 14:18 is the answer: "And the men of the city said unto him on the seventh day before the sun went down,

'What is sweeter than honey?
What is stronger than a lion?' "

As a result of the solving of the riddle, Samson had to pay a large wager. He set fire to the Phillistine's wheat by tying firebrands to the tail of 300 foxes, he lost his wife and father-in-law in a fire of revenge set by his enemies, he stirred up unrest among his own people, was delivered unto the Phillistines of whom "he slew 1,000 with the jawbone of an ass". Later he went to the valley of Sorek and fell in with Delilah. The beginning of the end for Samson occured when he propounded the famous riddle of the lion and the honey.

It is interesting to note, before we leave this book, that the only female judge was Deborah. Deborah is a Hebrew common noun meaning "bee" This writer tried to ascertain how she happened to be named "bee" but apparently no reason is given in the Bible. She merely appears with the name but no expository story behind it. There is another well known Deborah, too, in the Bible—Rebekah's nurse. Strange these women should have been named "bee". One cannot help but wonder if it were not because they were destined to be busy!

In the first Book of Samuel, chapter 14 is a rather intriguing passage about honey, verses 25, 26, 29, and 43. Saul laid an oath on the people that anyone eating food that day would be cursed. As an example of the extreme fear the people had of the curse, the Scriptures go on to tell that even though honey was available to them, they ate not, all but Saul's son Jonathan, that is. Space does not permit retelling this whole story and its result, but anyone can read it for himself.

We pass on to that beautiful book of Psalms. A very well known scripture lesson involving honey appears in the 19th Psalm. Many sermons have been written around it, and many times has it been quoted. Verses 9 and 10 only will be quoted here:

"The Fear of the Lord is clean enduring forever. The ordinances of the Lord are true and righteous altogether.
More to be desired are they than gold,
Even much fine gold;
Sweeter also than honey and drippings of the honeycomb".

The 81st Psalm was devised to be sung on festive occasions and developed the theme, "God is our strength". The idea was that upright living and belief in the Heavenly Father would be rewarded with abstract joys and analagous to the finest wheat and honey in the material world. Everywhere at this time we see honey being the Queen of all sweets.

A most provocative reference to honey appears in Proverbs 5:3:

"For the lips of a loose woman drip honey, and her speech is smoother than oil;
But in the end she is bitter as wormwood, sharp as a two-edged sword".

If interested in semantics, say over several times Proverbs 27:7:

"He who is sated loathes honey, but to one who is hungry everything bitter is sweet".

Proverbs have always fascinated this writer. Another gem is the 24th Chapter of the Book of Proverbs, verse 13:

"My son, eat honey, for it is good
And the drippings of the honeycomb are sweet to your taste.
Know that wisdom is such to your soul".

Also along these same lines, Proverbs 16:24 is something to remember:

"Pleasant words are like a honeycomb,
Sweetness to the soul and health to the body".

If anyone wants help in writing a love letter, let him turn forward to Song of Solomon, the entire Chapter 4 but especially verse 11. This refers to honey in a most delightful way:

"Your lips distil nectar, my bride;
Honey and Milk are under your tongue".

One commentary says "This sensuous ode tries to do by language what we do by the painter's art".

(Continued on page 511)

Moving bees the easy way

by H. E. CALFEE, Niceville, Florida

MOVING BEES can be a pleasant job and so easy a child could do it. It is not the old dreaded job of lifting heavy colonies onto a truck then climbing up to stack them in place. Many beekeepers are still doing it the hard way while others have built loading devices which make the work easy. Let's look back to our forefathers who plowed with oxen and a wooden plow. They no longer plow that way. They have fine plows and discs. When night comes they are no longer so tired and have done much more work in a day's time. The same applies to our modern day beekeeper who is looking ahead and planning his work. He has modern devices to make his work easy and faster.

In GLEANINGS, September 1954, page 562, appeared a picture of the 12V Electric Hoist which I use. This picture was taken at the Florida State Beekeepers' Association, Blountstown, Florida, November 5-6, 1953. In MODERN BEEKEEPING, January 1954, page five and seven, three pictures are shown with an article written by Mr. Kelley describing this hoist. At the time these pictures were taken, November 1953, the hoist was new and I had not had the time to give it a good test. I have had this hoist almost a year and have tested it out. It works perfectly with one exception. It is necessary to be on level or near level ground. The boom naturally will swing to the low side of the truck and the load run out to the end of the boom. Here in Florida it is no trouble to find level or near level ground for an out-yard of bees.

I have 17 out-yards and moved them three times last summer for three different honey flows. I can stand on the ground and load or unload 46 two-story ten-frame colonies on my small one-ton truck with perfect ease in 23 minutes. I did not have to hire any labor to move bees. This alone saved almost enough to pay for the hoist and I was able to get one extra honey flow I had been missing.

No extra help is needed when loading my truck with heavy hives.

When I drive into an out-yard of 40 to 46 colonies, the first thing I do is throw the switch on my hoist so that I will have 12 volts, then I light up my smoker and put on veil and gloves. The roughness of the steel fork makes it necessary to wear gloves; they also protect your hands in case you should get a colony excited. I never screen the entrance or nail on tops, nor do I staple hive bodies and supers together. I just give them a couple good puffs of smoke, let the hoist fork down and slip it under the bottom board, push the up switch and load the colony on the truck.

When the truck is loaded the bees are stacked so snug and tight that there is very little, if any slipping of supers. I tie them securely back and forth across the truck with a good heavy rope. It doesn't pay to take a chance when moving bees on a truck even for a very short distance without first tying them securely. Your truck wheel could possibly hit a hole and cause several

(Continued on page 502)

Brood cells will be removed from this frame before extracting. The Eastmans believe in producing clean honey.

Shows set tub used for capping and also for draining the frames in the other side. Tub is kept covered when not in use.

Honey Bee Haven

by CHARLES L. STRATTON, Windham, N. H.

THIRTY COLONIES may be regarded as a small apiary in some sections, but in still another it may be regarded as quite large. It's about average as far as Vermont is concerned with several apiaries running up into several hundred. One of the most important factors, however, is how the honey is sold. Retail or wholesale? Mr. and Mrs. Bryan Eastman of Bradford, Vermont, sell nearly all of the honey they produce at their home, appropriately called "Honey Bee Haven".

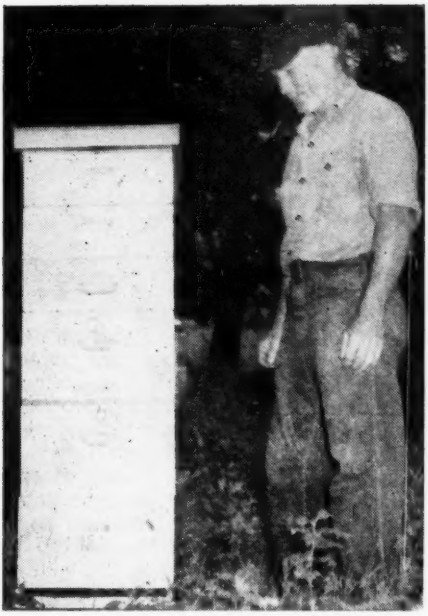
Their sign is attractive and painted in several colors. Inside the door the Eastmans have a small showcase where honey products, comb candles, and beeswax novelties are displayed.

This couple finds it hard for a small beekeeper to get attractive, unusual, packages for honey in small lots. They are constantly seeking new containers that are novel, eye-appealing, inexpensive, and help sell more honey. One of their best selling packages is a plastic refrigerator jar found in the 5 & 10. They use it as a container for 10 ounces of creamed honey and put on "just as nice a label as we can afford".

One of the showcase items is a jewel box filled with small molded beeswax items in several different designs and even in small plastic boxes. The Eastmans get 15 cents apiece for these beeswax items found useful in any sewing basket. Their surplus is sold to gift shops. Larger designs are packed in cellophane. The designs and molds are easy as the Eastmans use the common rubber maple sugar molds.

The extracting of honey is done right in the kitchen. As the kitchen is always warm, they don't make it a practice of heating their honey unless it is neces-

Mrs. Eastman shows the type of plastic refrigerator jars she uses for putting up creamed honey. Small beekeepers find it hard to buy small lots of containers at reasonable prices.



Bryan Eastman shown in his apiary. He keeps all equipment neatly painted.

sary. They use a new double set tub for uncapping. The uncapping is done on one side and the frame is allowed to drip on the other. The tubs are kept covered when not being used. After extracting, the honey is placed in a storage tank for bottling and processing.

The Eastmans emphasize clean honey and they strain it through layers of nylon mesh. They take particular pains in removing brood cells and any other debris not wanted in honey.

Future plans call for a second-hand house trailer to be used in visiting their bee yards. During the honey harvest, they plan to move from one yard to another with this portable honey house, extracting the honey, and any stray bees would be right at home with their own colony.

The Eastmans got into beekeeping through a round-about way. Mrs. Eastman had hayfever and a move was made for her health. She had a liking for honey and five pounds of honey was eaten every week. Later Bryan received $5.00 for a birthday present and promptly invested in two colonies. The hayfever has long since disappeared and what was once a necessary hobby is now a nice little business with their apiary producing around a ton of honey this past season.

The Eastman hives are neatly painted white or aluminum. A practice Bryan uses is to paint the various pieces of equipment with different colors for instant identification. He paints queen excluders a light blue (royal blue), comb honey supers are orange, with other parts painted practically any color except red.

Through their use of attractive packages and ornamental beeswax for the sewing basket made from maple sugar molds, Mr. and Mrs. Bryan Eastman sell what they produce. It takes an attractive sign, imagination, and an eye-appealing pack to help sell your honey. There's no reason why you can't do the same. The opportunities for honey sales are unlimited.

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CHARLOTTE B. WALDRON of Malvern, Pa.
tells about

A "Natural" Market for Honey

MANY BEEKEEPERS may be aware of the growing organic movement in the United States which stresses the production of foods without using chemical fertilizers, poison sprays, or additives such as the preservatives, softeners, dyes, bleaches, and other adulteratives familiar by name to any housewife who reads the labels on her purchases.

For some years now we, as small beekeepers, have noticed an increasing interest among new and old customers in securing for their tables foods which they may feel confident have not been tampered with, and honey is an important one of these foods.

Our honey is sold largely at retail from our home, and for more money than that handled by the average store. It is very seldom indeed that our prices are criticized as high, and a taste of the honey almost invariably silences any objection. New customers usually remark on the different colors of the honeys displayed, and are always invited to sample the different kinds, after which we hear the pleased comment, "This is different from the honey at the chain (or drug) store, this is REAL honey."

Not being faced with the problems of the large producer and processor of honey, we are happy to bottle our honey just as it comes from the supers—not blended, not heated, not filtered. The customer who has been reading about organically produced foods is equally happy to buy such honey and pay well for it.

We never strain our honey. We try to extract it as soon as it is ripened, in the hot weather, as soon as possible after taking from the hives, while still bee-warm. We keep the different kinds and colors separate, extracting the lightest first. The greatest cleanliness is observed, and the honey is run into gallon glass jars which are closed and set in a sun-heated place, but not in direct sunlight, as this injures certain vitamin content. The few fragments of wax left after careful uncapping, and any foam from air bubbles rise quickly to the top and are skimmed off easily. The honey thus treated is brilliantly clear, full flavored, and fragrant.

We like the wide-mouthed containers used by Canadian beekeepers when we can get them, for storage. Personally, I consider the five-gallon tins in standard use a trial and an error.

Though visiting beekeepers comment on the clearness of the display honey, we always tell customers that the honey is unstrained, and that they may come upon a few bits of wax or pollen —which they practically never do, as anything visible has been skimmed off before. However, if a customer requests a certain flavor of honey not on display, a jar filled from a hastily skimmed gallon may yield a few crumbs of wax or a faint film of pollen. The customer usually remarks that, "That's all right, I know by the wax that it's real honey".

Of course, in preparing honey for stores the utmost care is taken to free it of wax or foam. But the organic-minded customer is grateful to get honey so quickly transferred from hive to him, and may even know of the vitamin value of the pollen.

The various organic magazines appear to be good advertising media for the beekeeper who sells by mail "raw" untreated honey, good flavored and thick. This market will accept the darker honeys. Our customers know that the darker the honey, the greater the vitamin and mineral content. This in-

formation always pleases our colored customers. We have seen cases where a customer, buying for some one else, explains that he "cannot" eat honey, and then samples a dark honey out of curiosity, buys a small jar to try, and reappears with the news that he can tolerate it. A doctor whom I asked about this explained that the larger mineral content of the dark honey made it more acceptable than the light. Whatever the correct explanation, we are usually sold out of dark honey first, especially blackberry, or the bees' own blend of tulip poplar with blackberry and locust—dark and luscious.

The beekeeper will find his organic customer more than a source of income. He is also a potential bulwark against the use of poison sprays, especially by airplane, and other assaults upon the national health. Beekeepers would profit by looking into the literature on the subject, avoiding the "nuts" to be found in every movement.

The Natural Food Associates of Atlanta, Texas, headed by a physician-farmer-banker, publishes the excellent monthly NATURAL FOOD and FARMING. Its advertising standards are very high. ORGANIC GARDENING, and PREVENTION, both published at Emmaus, Pennsylvania, carry more advertising.

The "organic" customer is a natural for our best natural sweet.

Plans for Southern Conference Convention

October 2-3-4 1957

IN THE historic and scenic northern extremity of the Shenandoah Valley of Virginia where the world-famed Apple Blossom Festival is held each May, the Southern States Beekeepers' Federation will hold its 29th annual convention.

Winchester is in the heart of the fruit industry of the Virginias and just a few miles off the northern end of Skyline Drive. Visitors from the South and South West should plan an extra day and follow the Blue Ridge Parkway from Asheville, N. C., to Roanoke, Va., thence the Skyline Drive to Winchester. Neither words nor pictures can describe the breath-taking views at every turn of the winding mountain top park drive some 400 miles long.

The first day a scenic tour of the fruit belt, rivers, mountains, and caverns of the Shenandoah Valley is scheduled.

An important meeting for all interested in the poisoning problem is scheduled for the evening of the second. Representatives of all our national and regional beekeeping organizations are asked to be present. Both the Virginia and W. Virginia horticultural societies will be represented together with extension and research men of both states. All this for the purpose of persuading Jim Hambleton's department to sponsor a definite research program on the poisoning menace. John Amos will entertain the ladies and children.

G. H. Cale, Mrs. Harriett M. Grace, R. B. Willson, and Jack Deyell are among visitors who will address us the first day. A charter member of our first convention held in Texarkana 29 years ago, and one who has served our industry faithfully through the years will serve as Toast Master. Senator Harry Flood Byrd or his son will greet us at 9:30 A.M. on the 3rd.

The last day representatives of major allied organizations will address the convention. A visit to Maxwell's modern honey plant and inspection of a portable island apiary will highlight the afternoon.

Representatives from all states represented are asked to bring samples or cases of their honey packs for the honey show and auction with proceeds to the American Honey Institute.

Make October your vacation month and spend three exciting days with the boys from the South at Winchester, Virginia, October 2-3-4.

Official Hotel, The George Washington.—A. D. Hiett, Sec.

Dr. Eva Crane Tours South Florida

by F. A. ROBINSON, Assistant Apiculturist, Florida Agricultural Experiment Stations

Fig. 1 Mr. John Haynie and Mr. Wadlow assist Dr. Crane in sampling sugar cane

ON HER recent visit to the United States, Dr. Eva Crane, Editor of the Bee World, published in London, England, arrived in Gainesville, Florida, on March 29th, with just four short days in which to learn as much as possible about beekeeping in the Sunshine State. Due to the rush that comes each year during the citrus bloom, none of our beekeeping associations could arrange a meeting during her visit, so a trip through the southern half of the state was arranged that Dr. Crane might see and become familiar with the beekeeping industry in that part of the state.

In Gainesville, Dr. Crane attended a luncheon meeting of the Entomologists' Discussion Group and gave an interesting report on the latest research findings in regard to communication among bees. Immediately after the luncheon she, Mr. John Haynie, Extension Apiculturist, and the author left for Palmdale, in the Everglades area. Dr. Crane had never seen orange trees growing, but this was soon rectified as we traveled through the heart of the citrus belt, where millions of citrus trees form a green canopy over mile after mile of gently rolling hills.

On the first night of our trip we were entertained at the home of Ralph Wadlow who operates about 1200 colonies of bees scattered in various locations

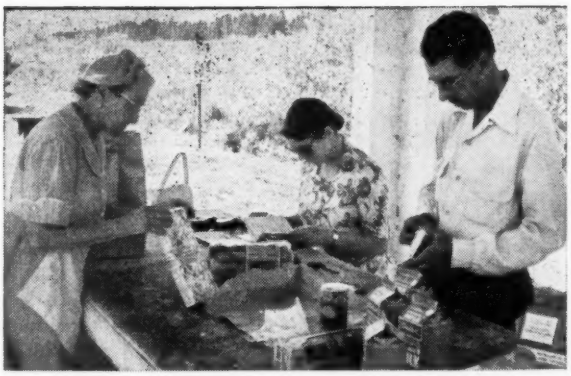


Fig. 2 Mr. Wadlow and his mother, Mrs. Clyde Wadlow, prepare a picnic lunch while Dr. Crane studies her bird book.

in the Everglades area. Mr. Wadlow helped us plan the rest of our trip so as to take in as many points of interest as possible. He and his mother graciously offered to accompany us, and they served as our hosts and guides during the remainder of our journey. After an early breakfast, we set out for a tour of the Seminole Indian Reservation and Devil's Garden area. The road took us through the sugar cane fields around Clewiston, where the world's largest raw sugar mill is located. While in this area we visited several of Mr. Wadlow's apiaries. These locations are used primarily for building up new colonies, as the juice from the cane stubble is a rich source of food for bees, and new colonies placed in the area build up quite rapidly. Naturally, one can hardly visit a cane field without sampling the cane, and our group was no exception as Fig. 1 plainly shows.

Completing our visit to the cane fields we stopped for a picnic lunch at a roadside park on the south shore of Lake Okeechobee (Fig. 2). Once we had satisfied our hunger we headed due

Fig. 3 Dr. Crane and Mr. Wadlow examine a field of palmetto in the Seminole Indian Reservation.

XUM

Fig. 4 Mr. Wadlow examines colonies located in cucumber field. In the background are sunflowers planted for windbreak.

south from Clewiston, and after traveling some 40 miles, over what passes for a road in that part of the state, we arrived at the Everglades Seminole Indian Reservation. The territory we passed through was formerly one of the finest honey producing areas in this country, and had been covered with scores of good nectar producing plants. In Fig. 3, Mr. Wadlow and Dr. Crane are examining a thick growth of saw palmetto, one of the best nectar-producing plants in this state. Just a few years ago, fields of saw palmetto such as this covered most of this area, but cultivation of the land, by watermelon growers and cattlemen, is rapidly changing the type of vegetation to be found here. Watermelon growers find it necessary to plant on new land each year to avoid serious disease problems. This means that thousands of acres of new land are cleared, and after growing one crop the land is planted to grass for pasture. As a result of this practice the beekeeper must move farther south each year. At the end of the State road we came to the Indian Reservation, and continued traveling southward for another 30 or 40 miles on trails known only to the Indians and a few other old-time inhabitants of that area. Even this far south we found large fields of watermelons, for which Mr. Wadlow was furnishing bees for pollination (Fig. 4). Finally we arrived at the southeast corner of the reservation where the trail becomes impassable for ordinary vehicles. On our return trip we stopped at one of the Indian camps (Fig. 5).

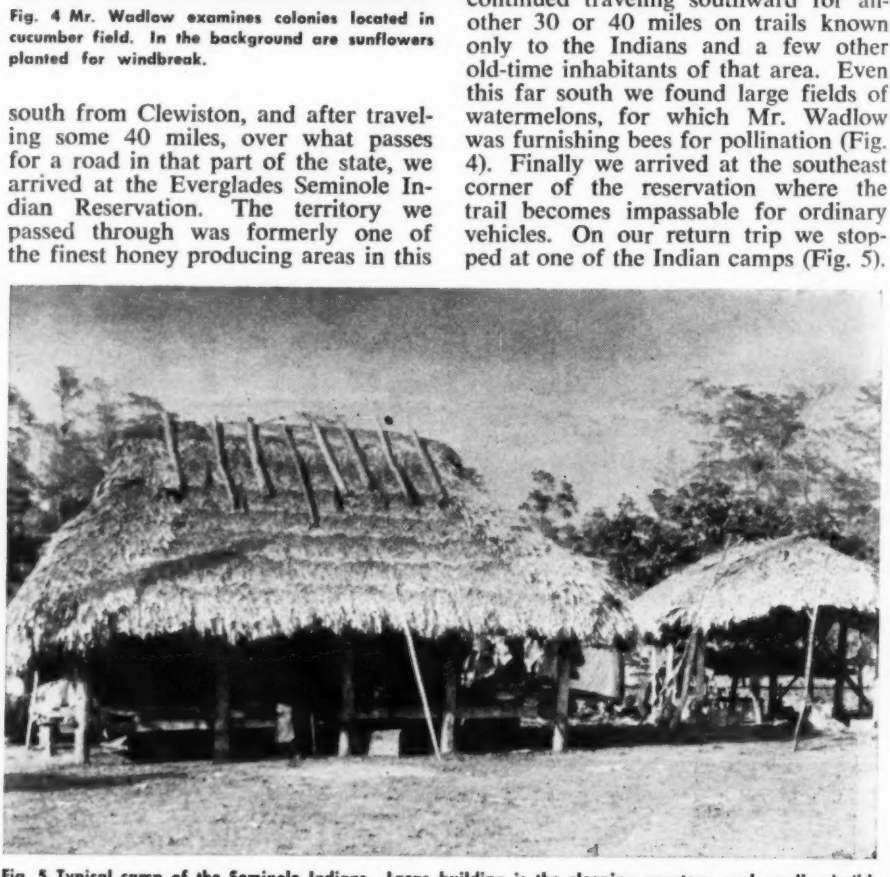


Fig. 5 Typical camp of the Seminole Indians. Large building is the sleeping quarters, and smaller building is where the cooking and eating is done.

These Seminoles still live much as did their ancestors a hundred years ago, and do not mingle with white people any more than necessary. Earlier in the day we had captured a large turtle, and at Mr. Wadlow's suggestion, saved it as a present for the Indians. After a lengthy period of staring at our group, Charlie Cypress, finally condescended to accept the turtle and permitted us to take his picture (Fig. 6).

From the Indian Reservation we turned westward to Immokalee, through the Devil's Garden and heart of the winter vegetable area. There we turned south and traveled through the Big Cypress swamp, to the Tamiami Trail, then to Marco Island, one of the Ten Thousand Islands.

As we left our rooms the next morning we soon learned that in addition to being the center of the mangrove honey producing region, Marco Island is where the mosquito comes to spend the winter. A quick dash through the mosquito swarms brought us to the safety of the observation tower on the deck. (Fig. 7). From that vantage point we were able to view some of the dense mangrove swamps which cover most of the island.

From Marco Island we traveled along the Tamiami Trail through the center of the Everglades and then turned south to Homestead. On this leg of our journey we made one stop to let Dr. Crane sample a watermelon. This was the first time she had ever tasted this fruit, however, she seemed to enjoy it very much.

From Homestead we followed Highway 1 for another 80 or 90 miles along the Florida Keys to Marathon Key. Formerly, most of the keys area was covered with mangrove and was an excellent honey-producing region. However, in recent years much of the land has been cleared and developed into building sites, and few areas suitable for apiaries are left. After crossing the famous seven mile bridge below Marathon Key we returned to Miami. Within 15 minutes after our arrival at the International Airport, Dr. Crane was on a plane departing for Havana, Cuba. In just two and one-half days, Dr. Crane had traveled more than 800 miles, and made 30 or 40 stops. She had seen alligators, Indians, rare birds, many nectar plants, and become familiar with beekeeping in the Florida Everglades, with its blessings and problems.

Fig. 6 Charlie Cypress, the oldest Seminole on the reservation, poses with his grandson.

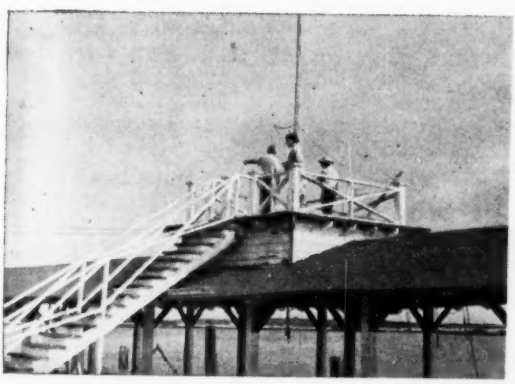


Fig. 7 Mr. Haynie, Mr. Wadlow and Dr. Crane view the mangrove swamp covering Marco Island.

Give the Customer What He Wants

by CHARLES W. GOUGET, Glen Ellyn, Ills.

TODAY THE American Consumer is a "fussy" customer primarily because high standards have become a fixed part of the "American Way of Life." Unconsciously, he expects good quality in almost everything he buys, and in addition he usually expects many packaging conveniences and services. Sometimes these additional conveniences and services become a large "order" for the dealer who works on a small margin of profit, but if the dealer is to continue to compete on the open market he also must "do as the Romans do". This fact is true of almost any item on the market and honey is no exception. Too often sales are lost because the dealer does not appreciate the many factors that help to promote volume sales, factors that are often taken for granted by the consumer. Therefore, if the dealer or producer expects to increase his sales he must "give the customer what he wants". Some of the more important "wants" of the honey customer and their importance are given below:

1. The honey customer **expects** honey to be available in all food stores.

He expects to find honey wherever he buys his food supply and he will not "hunt" in several stores to find it. If he must hunt to find what he wants he may substitute another cheaper sweet for honey, and if the substitute sweet should become "habit-forming" many honey sales will be lost. It is important, therefore, that honey should be exhibited conspicuously and that it should be in the form desired by the customers. Volume sales require a wide distribution.

2. The honey customer **wants** a selection of sizes in packages.

He wants to buy the amount of honey he needs, and no more, whether that amount is only enough for a cold or for pancakes and coffee every day in the week. In most stores the one pound honey jar is the most popular size, but those who use honey only occasionally as a "medicine" may want to buy only a half pound of honey and no more—even though they may pay a great deal more for the lesser amount. These people could get the "honey habit" and become good customers provided that the half pound package is available when they want it.

On the other hand, real "honey eaters" will not purchase either the one pound nor the smaller packages because they would be too costly and too inconvenient. "Honey eaters" want a three or five pound jar of honey that can be sold at a slightly lower cost. The problem, then, becomes one of determining what a particular trade wants, and this can be determined by using packages of different sizes as "bait". It may be found that one size is popular to the exclusion of all others, but it may not be the one commonly sold in most stores. The store across the street may demand a different size altogether so it cannot be assumed that the demand for a particular package in one store is a criterion for the whole neighborhood. Each store must be supplied with what it wants.

3. The honey customer **wants** an attractive package and one that has additional utility, when possible.

A prospective customer is attracted to a package or container with graceful lines, one that will help to decorate a table, if possible, rather than to detract from its appearance. No one enjoys the appearance of a milk bottle or a can of milk on the supper table. Even though these containers hold milk as well as a fancy pitcher their use on the table at meal-time is not considered to be good taste or good etiquette. To be sure, their use on the table at meal-time is crude and unsightly and adds nothing to the meal which should be a pleasant experience. The "standard" jar for honey should be placed in this same category—it adds nothing to the appearance of a table set for a meal.

The fact that such items as cosmetics and perfumes sell largely on the ap-

pearance of the container would seem to be proof "positive" that the appearance of the package is important. It is just as important for honey.

Almost everyone hesitates to throw away an attractive container because it seems to be a waste of money, and if the container has additional utility it probably will be saved and continue to enhance it's advertising value through continued use. Therefore, additional features such as a fancy top that can be opened without a struggle or a "no-drip" spout feature that may be used again to dispense other liquids are all features that will add up to more sales through "self" advertising and more utility.

4. The honey customer **wants** a quality product.

A pleasing package or container that holds something to eat usually stimulates the joy of anticipating the contents. If the contents justifies the use of the fancy package by its appearance and taste the customer is well satisfied and usually feels as though he has not paid too much for the treat, but if the contents in no way "matches" the container he will be quick to notice it and immediately he has been "gipped", as a result he may buy no more honey from that source. Likewise, if an otherwise superior honey has sediment on the bottom of the container or some "spare parts" of a bee the customer is not liable to buy at that source of supply or any other source of supply again. Quality is a "must" and must "match" the fancy container. The customer demands it so why not "give the customer what he wants".

In a nutshell: The American Consumer is a fussy customer because he is used to high standards of packing service and quality. He is "gadget-minded" so that anything that may add utility and or appearance to a container or package will attract his attention and interest and contribute toward making a sale. Since he is used to high standards in foods many of his wants are unconscious, but when they are not supplied often he becomes impatient because "he wants what he wants when he wants it". So, why not GIVE THE CUSTOMER WHAT HE WANTS and make more sales.

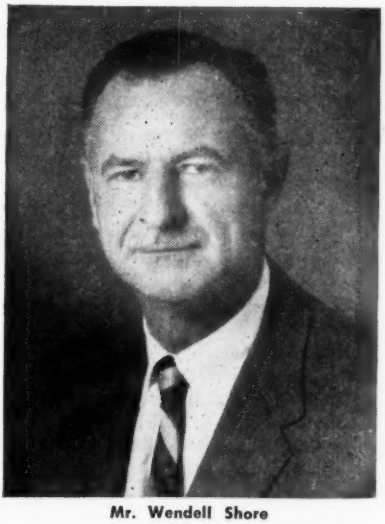
Wendell Shore Joins Superior Honey Company

WENDELL SHORE, formerly a partner in Hamilton and Company where he was in charge of their honey department, has just announced his association with the Superior Honey Company, the West's leading honey organization.

Hamilton and Company have decided to discontinue the operation of their honey department in order to devote their full energies to beans and other related items.

Superior Honey Company feels very fortunate in securing the services of Mr. Shore. With his many years of background with the pioneer firm of Hamilton and Company he brings a knowledge in the marketing of bulk honey and many fine relations in this field. His primary responsibility will be with the bulk honey division of Superior's operations, both domestic and foreign, and he will work from their new southern California plant at 10920 Garfield Avenue, South Gate.

The entire organization of Superior Honey are very happy that Mr. Shore has chosen to join with them and looks forward to many happy years of pleasant association.



Mr. Wendell Shore

The Cycling Bees

by LYLAS I. HILL, Alameda, Calif.

The adventuresome bees first swarmed on a branch of a pear tree a few feet away from their original hive.

"MOM, COME quick! The bees are moving!" shouted Kenny, my eight-year-old son.

Sure enough the bees were swarming. They had attached themselves to a branch of our pear tree.

It was a swarm from our hive. We had acquired our bees from one of our neighbor's trees the year before. One hive is sufficient for our needs, so I told Kenny not to bother them. Maybe they would leave. I little knew what was in store for me.

Thinking no more about the bees, I went about my duties.

Our home is in Alameda, California. Alameda is an island city located between San Francisco and Oakland. It is best known as the home of the famous Alameda Naval Air Station.

The next day I was entertaining. We had just sat down to lunch when the doorbell rang.

Two excited boys gasped, "Mrs. Hill, you know all about bees, don't you?"

"Not too much." I said, puzzled.

Still undaunted, they said. "Your husband has the outfit that you go after them with, doesn't he?"

"Yes," I told them, still perplexed.

Finally, they said, all in one breath, "Please, may we borrow it? There are bees all over one of the bicycles in the school-yard and the principal is afraid one of the pupils will get stung."

Then it hit me. I ran down to the basement to get the equipment. The two boys and I hurried over to the school-yard.

Although it was lunch-time, the school-yard was deserted except for Mr. Cioffi, principal of Longfellow, and two teachers, who were nervously waiting for us. It was then that I noticed all the anxious faces peering out of windows. They had been sent to their rooms against the invasion.

I tried to assure them. We did have the equipment and furthermore, there is little danger of being stung while they are swarming because the bees are laden with honey to feed the queen bee; also, my husband had obtained our bees without any protection. Still, it takes courage to tackle them!

Mr. Cioffi insisted that he be the one to take the responsibility. Although hesitant at doing the unfamiliar and with no relish for the task, his attitude was that it would take a lot more than a swarm of bees before he would give his students (fifth through eighth grade) reason to be anything but proud of their Principal.

The teachers and I helped him get into the outfit. We tied his trouser legs tight around his ankles, saw that the gloves overlapped his coat sleeves and borrowed a beanie from one of the boys to use for a hat, for as one can

Ralph Cioffi, Principal of Longfellow School, extricates basket from bicycle.

Despite their buzzing protests Mr. Cioffi removes the bees.

see by the illustration, the hood is of the drawstring type.

In the meantime, we had sent the boys back to my house for a clean cardboard box. The container must be clean or the bees will not stay.

The main part of the swarm was attached to the basket on the bicycle. First Mr. Cioffi removed the basket, laying it in the box, then handful by handful took the rest of the bees off the bicycle. The problem is to make sure that the queen is in first, otherwise, the other bees will not stay.

Mr. Cioffi was lucky, they all marched in like good little soldiers. We all drew a deep breath of relief.

One of the boys said that his father would very much like to have the bees —no one objected.

Having done all I could, I went back to my guests and my lunch. Later we saw Mr. Cioffi pass the house, still in mask, carrying the exciting box to the boy's home.

That evening, Kenny asked if the bees had moved, "Yes," I told him, "and how!"

Wasting Time with a Swarm

by WAYNE KELLER, Oshkosh, Nebraska

JUST TO PROVE the futility of trying to hive a swarm which may have virgin queens, I shall give an account of my experience last summer with a swarm that didn't happen to take to the air. For some reason, it stayed settled with its virgin, or virgins. Experienced beekeepers have seen so many flighty ones when disturbed go higher in the trees.

I hit the post on which they were settled. Instead of entering the hive, they again settled. I caught a virgin and caged her. They were tugging at the legs of another, so she stayed on the surface of the cluster, and I caught and caged her. Another flew as I grabbed at her wings, but I caught her (I thought) at the other side of the swarm. Well, I have forgotten how many I did collect, but when I could see no more I hived the bees. Then I introduced the virgins to the queenless colonies.

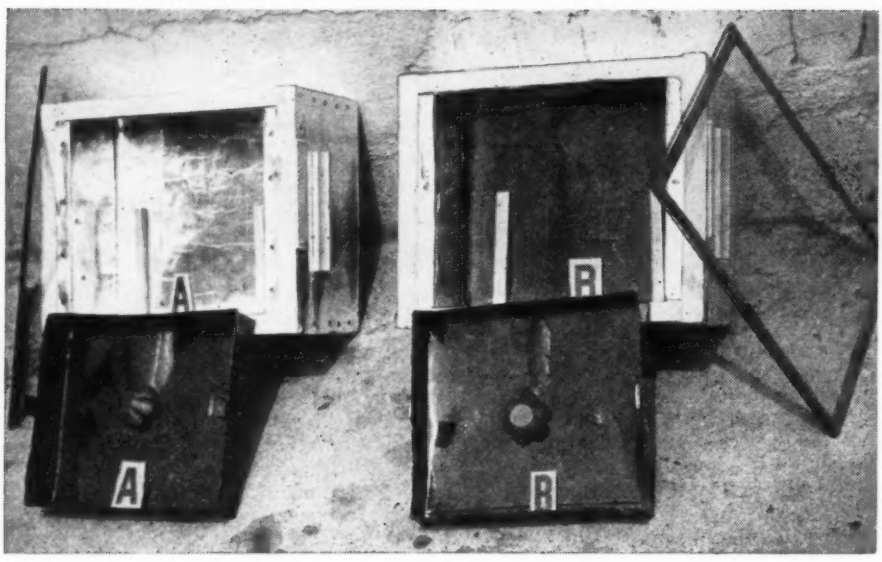
One can sometimes fool a swarm into running into a queen-right colony, in which case the virgins may fly and get away with a few bees or be killed at the entrance or inside the hive.

Try putting a bait hive in the shade about where your swarms ordinarily cluster. Don't try to winter an old swarm-queen.

XUM

Some Experiments in Trapping Solar Heat

by G. L. JEFFERS, Glenallen, Va.



THESE EXPERIMENTS were made in connection with the design of a devise for melting beeswax by trapping and using heat from rays of the sun. It was to be a glass-covered box containing a metal tray for wax. How should the interior of the box be finished? Some local engineers were not in accord as to whether this should be dark or light in color.

Before making the experiments, these established facts were considered:

1. Heat rays will be absorbed by, and heat, dark surfaces.
2. Heat rays will be reflected from shiny, light-colored surfaces.
3. Some materials, when heated, will conduct heat.
4. Heat can be conveyed, or transported, by air in motion.
5. Heat can be radiated, as is done by the rays to be studied, which, after traveling through some frigid space from the sun, warm us here on earth.

The writer, therefore, made two identical, tight, wooden boxes with inside dimensions of 8¾ x 8 x 3⅛ inches. The boxes were insulated on the outsides and provided with windows on top. Each window was made "insulating" by using two panes of thin glass, separated by a continuous, narrow strip of 1/32-inch fiber, cemented near the edges, so as to form a "dead air" space between them. Two tin pans, 8⅜ x 7⅝ x 1¾ inches, with lifting tabs, were made and enameled black. Provision was made for each pan to rest on two short ¼-inch wooden sticks. Small cakes of beeswax, each of similar weight and shape, were provided, so as to have one for the center of each pan.

Numerous comparative experiments were then run outside, in the sunshine. The most representative kept one box lined on sides and bottom with unpainted aluminum insulation, which is a building material consisting of two sheets of shiny aluminum foil, bound

together by a layer, or sheet, of insulating substance. The second box was lined successively with (1) aluminum insulation, unpainted for sides and painted black for bottom; (2) aluminum insulation, painted black for sides and unpainted for bottom; and (3) aluminum insulation, painted black for sides and bottom.

In every case the wax started and finished melting first in the box where the unpainted aluminum was used to line the sides and bottom.

A comparative test for windows was also made between above described insulating glass versus a single thickness of the same glass. The double or insulating glass was found to be more efficient.

While the above experiments were being made with wax, in the sunshine, down here in Virginia, another independent experiment was performed in a Pittsburgh basement, where the 78 degree room temperature was fairly constant. It made use of a double thickness corrugated cardboard box, size 11¼ x 8¼ x 6 inches deep, covered by a tightly fitted, insulating glass window. The source of radiant heat was a 250 Watt, Type R-40/1 heat lamp, hung so as to leave a vertical distance of 25 inches between the bottom of the lamp and the glass window. Of course, a closer distance would have shown higher box temperatures. A thermometer was placed inside the box in such a manner as to be 1½ inches above the floor of the box, and visible for reading, but with its bulb shielded from the direct rays of the lamp. Otherwise, the box was empty, except for its various test linings, which were made of shiny aluminum foil and aluminum foil painted with black stove pipe enamel.

Data was compiled for four comparative temperature-time curves. The curves are somewhat parabolic in shape but they flatten off toward the peak temperatures. They showed these maximum temperatures:

Black sides and shiny aluminum bottom — 105° in 115 minutes.

Shiny aluminum sides and shiny aluminum bottom — 106° in 70 min.

Black sides and black bottom — 118° in 212 minutes.

Shiny aluminum sides and black bottom — 117° in 97 minutes.

Each of these temperatures remained constant for at least one-half hour, after which the current was turned off.

Since solar wax melters are intended for operation only while the sun is shining, these experiments seem to verify the following conclusions:

1. An entirely black melting tray should be used, because it will not tend to reflect heat from the box, but it will most readily absorb heat and conduct it to the wax.

2. The tray should not touch the lining of the box, but it should have dimensions nearly as large as those of the floor.

3. The box for the tray should be completely lined on all sides and below the tray, with a reflecting material, such as aluminum insulation or foil.

4. Some heat losses can be avoided by using an insulating glass window.

"George never in his life used a smoker to quiet his bees."

Easy and Good

by MRS. BENJ. NIELSEN
Aurora, Nebraska

Serve honey crispies with tall frosty honey-way drinks.—Photo to courtesy Kellogg Company.

THIS IS the month of picnics, quick trips before school starts, a bit of canning, and gardening. The days fly by and there never seems to be quite enough time. Then easy-to-fix and nice-to-have-on-hand recipes come to the fore for busy homemakers. And, since it is a well-known fact that honey improves the flavor of foods as they wait-a-bit, honey scores again in the summer-time meal preparation and snack-time goodies.

The frozen salad given below may be varied to use available fresh fruits such as peaches and raspberries. And with honey vanilla ice cream and a variety of honey-way sauces awaiting in the refrigerator you will never be at a loss for a quick, delicious treat when travelers drop in to see you on the trip home.

Honey Crispies

One-half cup honey, ½ cup sugar, 5 cups oven-popped rice cereal, and shredded coconut.

Combine honey and sugar; cook over low heat to 250 degrees F. (hard ball in cold water), stirring constantly. Measure rice cereal into buttered large bowl; pour on honey mixture, stirring until cereal is well coated. Drop from buttered spoon into waxed paper baking cups. Let stand until hardened. Yields: two dozen balls.

Frozen Honey Fruit Salad

One-third cup mayonnaise or salad dressing, one 3-ounce package cream cheese, 1 cup diced canned pineapple, ½ cup pitted Royal Anne cherries, 1 cup diced peeled oranges, 1 cup chopped maraschino cherries, 2 tablespoons honey, and 1 cup heavy cream, whipped.

Gradually add the mayonnaise or salad dressing to the cream cheese, blending until smooth. Add the fruits and honey; blend well. Fold in whipped cream. Pour into refrigerator tray, freeze until firm. Slice. Serves 6 to 8.

Honey-Scotch Sauce

One-half cup water, 1 cup brown sugar, 1 cup honey, and ½ teaspoon salt.

Boil water and sugar together for five minutes. Remove from heat, add honey and salt and stir well. Makes one pint.

Honey Chocolate Mint Sauce

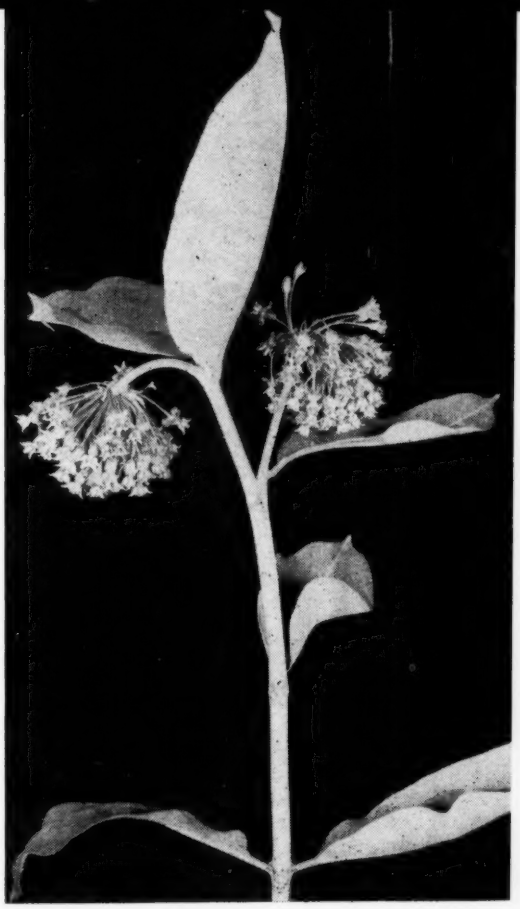
Two squares unsweetened chocolate, ⅓ cup honey, ⅓ cup cream, and 2 drops oil of peppermint.

Melt chocolate, stir in honey and blend well. Add cream and flavoring, mixing well. Makes ⅔ cup.

Let's Talk about Honey Plants

by HARVEY B. LOVELL
University of Louisville, Ky.

I ATTENDED THE northeastern meeting of the Indiana Beekeepers' Association at Huntington, on June 8. There was an excellent attendance of some of the state's best beekeepers, most of whom knew their honey plants very well. Mr. William Weber of Huntington had a bottle of honey made from red clover, which he kindly gave me. It is a delicious honey with a very light amber color with a faint reddish tinge. It seemed to me to be as good as any clover honey I have tasted. On our way back we drove through central and southern Ohio and observed hundreds of acres of yellow sweet clover in full bloom. Many of the fields looked as if they had been planted, but in others the clover appeared to have sprung up in fields and pastures on its own. There must have been tons of nectar in the flowers and bees were working them vigorously.



Common milkweed (asclepias syriaca)

Portulaca. John Grobner of Ellendale, Minnesota, writes me: "I have noted that bees will go to the blossoms of Portulaca (Moss Rose) in preference to almost anything. We have a patch that escaped from the garden and comes up every year from seed." In a second letter Mr. Grobner adds that there are six square rods nearly solid with the plants and a much larger area with scattered plants. Each plant spreads over a large area and may have as many as 40 blossoms at a time. They bloom in the morning and close shortly before noon, and the season lasts over two months. His bees will even leave Ladino clover to work the Portulaca and throughout the long blooming period each plant will have at least one bee. He adds that the honey must be light colored because it does not darken the clover honey which is made at the same time.

Bluevine honey (Ampelamus albidus). In a recent letter Gilbert Perigo, State Inspector for Indiana, challenges the statement in my "Honey Plants Manual" that bluevine honey crystallizes rapidly and asked me where I obtained the information. Actually it was based on a sample from Indiana obtained through the aid of Mr. Perigo, himself. In reply to my letter he comments, "The samples of bluevine honey which I furnished you were not from my own apiary and I am almost certain that this honey was blended with some other sources, but with bluevine being the predominant source . . . It is now almost impossible to secure a crop of pure bluevine since the spray program has so materially cut down the acreage

(Continued on page 510)

Editorials

Too Much or too Little Rain

FROM THE Semi-Monthly Honey Marketing News Report of the U. S. Department of Agriculture, as of July17, 1957, it would appear that a variety of conditions have prevailed over the country. It is very difficult to get a true picture of weather and crop conditions.

Heavy rains and cool weather in some of the northeastern and central western states have interfered with normal nectar secretion. There appears to be quite an abundance of honey plants to help insure a summer honey crop, if only the weather man would co-operate in ordering weather suitable for nectar secretion.

As a rule one extreme follows another, so it is possible there may be a spell of dry weather in the states that have had an over supply of moisture. Such weather would be favorable for a honey flow from alfalfa which seems to yield well during dry weather. One of the best crops our bees in western Ohio ever produced occurred during a very dry spell in late July and early August when alfalfa with long roots extending down into the sub-soil yielded an unusually good crop.

The copious spring and early summer rains should help to produce an abundance of fall honey plants, so it is possible a good fall crop is in store for beekeepers in states where fall honey plants abound.

World Sugar Demand Strong

WITH WORLD DEMAND for sugar very strong, prices of sugar have been rising. From May 14th to June 14th the price of refined sugar, according to the Department of Agriculture, rose from 9.1c per pound to 9.25c per pound at the refinery. In mid-June last year it had been 8.75c.

In an attempt to halt price rises, the Department of Agriculture has increased this year's sugar marketing quota—originally set at 8.8 million tons—to 9.3 million tons. Experts estimate that the domestic consumption probably would not go above 8.8 million tons.

While sugar and honey are not competitive except for industrial sweetening, however, generally there has been a correlation in the prices of the two.

Bees Crowded Out of Towns and Cities

WE WONDER sometimes what is going to happen to the back-lot or side-line beekeepers, especially those living in rapidly developing areas where factories and dwelling houses are being erected to make room for people and industries. Naturally some of the beekeepers will have to move their bees into the country where there are more wide-open spaces. This creates a problem for the side-line beekeeper who has become established and perhaps has the number of hives he can handle conveniently. Then, too, bees in the congested area do not have the

number of nectar and pollen plants available that they would have in a more sparsely settled community. The new dwelling houses and factories occupy land that at one time produced honey and nectar plants.

There is another angle to the situation. In a thickly settled area, bees may cause some trouble among neighbors unless the owner of the bees is exceedingly careful about the manner in which he manipulates the hives. Many people are afraid of bees, or think they are, and may object to having them in the neighborhood. We do receive a number of letters from city and town beekeepers stating that some neighbors have carried their complaints concerning bees to the City Council who plan to oust the bees outside the city limits. Bees are needed in towns and cities to pollinate fruits and vegetables.

It would appear that this problem should be handled by the Beekeepers' Rights Committee of the American Beekeeping Federation, in co operation with state and county beekeepers associations.

Beekeepers Do Not Tell About Locations

WE CANNOT BLAME beekeepers who are fortunate enough to have good beekeeping locations for being secretive about their methods of apiary management and their locations. It they told the world about the crops they are securing, beekeepers from other localities would encroach upon their locations, resulting in smaller crops for all concerned.

Fields far away usually look greener than those near at hand. As a matter of fact, there may be desirable beekeeping locations near by which are being overlooked. In some instances, what appear to be poor locations for bees are above the average.

We have come to feel that in some instances it is the beekeeper and his method rather than his location that counts. An efficient beekeeper who really understands honey production may secure an above-average crop in what may be considered mediocre beekeeping territory. Others, hearing of his success, may move in and get relatively small crops because of faulty apiary management. However, commercial beekeepers must have bees where there is an abundance of nectar and pollen plants in order to secure the maximum crop and make a profit.

Commercial beekeepers looking for a new location should try out a few hives in a territory not overstocked with bees. If the new location proves worthwhile, more hives may be added to the number already established. There are plenty of unoccupied beekeeping locations throughout the country.

Where Are the Bees?

WHEN DRIVING through the country we seldom see hives of bees. In many instances, bees are placed behind a grove of trees or in woods or perhaps in a valley so that they will not be in plain sight of people traveling along highways. As a matter of fact, there are comparatively few hives of bees throughout the country. There should be more bees.

For example, here in Ohio there are approximately 41,000 square miles. According to the latest estimate of number of colonies in each state, Ohio is credited with 289,000 colonies. On reducing the number of square miles down to acres and dividing this by the number of hives of bees, we find that there is only one colony of bees for each approximately 90 acres. Indiana has one colony for each approximately 129 acres and Pennsylvania has one colony for each approximately 173 acres.

If it were not for the number of swarms of bees found in bee trees and sidings of buildings, the pollination situation as related to farm crops would be in a much worse condition than at present.

Of course, there are pollinating insects other than honeybees. However, it is said on good authority, that honeybees are responsible for at least 82 per cent of the pollination service rendered by insects.

There should be many more hives of bees throughout the country to help pollinate farm crops, also to save some of the large amount of nectar that goes to waste annually for the lack of bees to gather it.

XUM

FROM Foreign LANDS

Translated and Edited by ERIKA BARTH

Medics Discover Way to Excite Bees:

ON RARE occasions this column has taken material from domestic sources, and because of an important observation, some domestic material will be quoted here. Actually the following is a summary of Russian research. In part, the report says:

"In a small room on the ground floor we were shown experiments on social conditioning in bees by a group of three or four rather nervous middle-aged women. Individual bees are conditioned to sight and smell, with reward by sugar water. This conditioning seems to be transferred to other bees by contact with the one rewarded. The 'dance' of bees seems to have an inverse relation to the delay in getting food. The conditioning depends on the integrity of a mushroom-like protuberance on the antennae. Related experiments were reported from Germany by Frisch.

"A strange phenomenon in bees was found if one were given acetylcholine. It is attacked on returning to the swarm, and those who attack it are then attacked by others, until the whole swarm is destroyed."

Report on Impressions of Russian Physiology and Culture, 1956 by Chauncey D. Leake, Ph.D. The Quarterly of the Phi Beta Pi Medical Fraternity. Vol. 54. No. 2. Pg. 11. April 1957.

Premixing of Royal Jelly with Honey Desirable:

PATRICK D. CROFTON, an industrial chemist specializing in the preparation of royal jelly for market, says that pre-mixing royal jelly with honey insures its quality, if there is any delay in transit, as minor variations in temperature have no apparent effect, whereas royal jelly in pure form deteriorates rapidly.

The Australasian Beekeeper. May 15, 1957.

Bees and Swallows:

SWALLOWS ARE included in the group of birds that relish going after bees. They can be seen frequently circling open-mouthed over an apiary. In a few minutes a swallow will catch from 10 to 13 bees, then she will thereupon fly away, but only to return again in about five minutes.

This hunt for bees goes on especially during the time when there are but few other insects, and while the swallows are rearing their young. The hunt for the bees is especially productive when bees begin returning to their hives because of threatening weather. At that time the swallows will ignore the beekeeper who is trying to scare them away.

Since Frenchmen are not allowed to kill swallows, and don't want to, there is practically nothing to ward them off. French beekeepers have to console themselves with the fact that bees have always been a delicacy to swallows.

Abeille de France. March 1957.

What Union for Apiarists?

A LARGE New Zealand apiary has had trouble with a trade union because employees were employed in packing honey and were not members of the appropriate union. Beekeepers fear that the position may become more complicated in the future and make it difficult to keep permanent employees working. For instance, employees working on boxes may be classified as carpenters. Apparently New Zealand has compulsory unionism. Beekeepers' employees are registered under the Agricultural Worker's Union.

New Zealand Beekeeper. Nov. 1956.

Live and Learn

by Propolis Pete

IF ANY OF YOU read this page last month, you may remember that we were thoroughly sprayed by Uncle Sam because a couple of gypsy moths were found 40 or 50 miles west of here. I have heard several reports over the grape vine that some beekeepers suffered damage, but honestly I can't see that my bees were affected at all. And I got a good dose. The plane flew about ten feet over the trees that surround my yard and the covers of my hives showed that they got their share. There was a spell when my colonies seemed to be losing strength when they should have been building up, but whether it was caused by Uncle's generosity or the regular spraying that the farmers are doing all the time I cannot say. Sufficient to say that they seem to be putting in as big a crop as could be expected, with the dry weather that we have been having. My rain guage shows two-tenths of an inch of moisture since May 20th. Today is July 1st.

Another funny thing about this season is that for some reason the bees seem to be a lot milder than they usually are. Ordinarily my bees are on the warm side, because the best strain that I have found for this land of scant honey flows is that way. Ordinarily, even when I just crack the supers to look up under, a couple of them will zing out and do a war dance right in front of my nose until I slap them down. This year, so far at least, I can tear a hive apart and they don't seem to know that I am doing it. Could it be that after all these years I am finally learning how to handle them?

I always wear a veil and gloves when I handle bees for two or three reasons. One reason is given above. Another is that in spite of all you read and hear about immunity, I still swell up when I get stung. If I don't wear gloves and get one on the hand, in an hour or so it looks like I have a boxing glove on that hand. Also, a sting hurts now just as much as it did when I started to keep bees. But that don't stop me, and I don't let foolish pride punish me.

Beginners usually long for the day when they can handle their bees like Grandpa did, that is, with no protection other than an old corn cob pipe. I do not call that bravery. I call it darned foolishness. It is true that some people are immune, but many are not. If you are not, don't let someone who is lucky enough to be immune talk you into something that will hurt you. It's you who is going to be hurt, not him. Which reminds me of a beginner a couple of years ago who bought a colony from me. I suggested that he get the usual assortment of veil, gloves, smoker, and so forth. Not him. His father never used any equipment but a screw driver to pry the supers and frames apart, and he'd be durned if he would either.

Well, a week went by and he came in with his face all lopsided. I knew, but anyway asked him how come, and said he had looked into the colony and could I lend him a veil so that he could make a good examination. I did and he did. The next day he came in and borrowed a pair of gloves. That colony must have been a holy terror, because a couple of days later he came in and asked if that sting solution in Root's catalog was any good. I told him that I had never tried it, but people had told me that it was O.K. I think that he still has his bees.

If this is your first year with the bees, take a word of advice from someone who is getting to be an old-timer in the business. Don't let anybody talk you out of using protection when you work your colonies. It is a grand feeling to have everybody go ah-h-h when they see you take a colony apart, but on the other hand every once in a while you hear about somebody trying it and getting a dose that darned near killed him. I don't think that it is very sensible to be brave around bees. They are grand fun, and profitable, too, if you manage them with anything like reasonably good business judgment. Which reminds me of a placard I have hanging in my workshop, "If you are so darned smart, why ain't you rich?"

XUM

Paradise Flower: Devil's Claws

A Jamaica Beekeepers' Experience . . .

by A. J. BARTLETT, Trinity Ville, Jamaica, B. W. I.

WHAT IS LEFT of my 1926 edition of John H. Lovell's "Honey Plants of North America" — the hurricane which ravaged Jamaica in 1951 gave the book its share of the works—describes a honey plant which, north of Mexico, is variously known as catsclaw, paradise flower, and devil's claws.

We have a plant very like paradise flower around here where its popular name is cockspur macca. The other day, while weeding the apiary, I was a little careless in cutting a branch of Paradise flower that was arching gracefully over a hive cover, and in a twinkling the severed branch had firmly flattened itself against my arm, bare below the elbow, in a short-sleeved sports shirt, with each of three or four wicked claws buried up to its base in the flesh. I knew better than to try to free myself, and walked complete with branch attachment in search of help, probably looking not unlike Macbeth's enemies in Shakespeare's famous tragedy.

Expert help was not far to seek. With Paradise flower as with many other things, there is a right as well as a wrong method of manipulation. By holding the flesh taut, and backing out the claws along the same route by which they had entered, the whole affair ended quite pleasantly without any of that feeling of having gone to the wrong dentist.

Paradise flower, cockspur macca, or what-have-you, is generally recognized around here as being a useful contributor to our honey crops, but here it is not considered to be a major honey plant. In 1951, however, this plant showed itself in an entirely new light.

The spring of 1951 seemed very favorable for the bees. Early flowering honey plants, such as mango, O'Tahaiti apple, avocado pear, guava, etc., had blossomed profusely, and there was promise of a good second flow in April from citrus, silk cotton, mint plant, etc., as sometimes happens here. Towards the end of March the mango bloom was at its height. The show put on by a big Bombay mango tree near the house was a thing to pause and look at. Then one evening at twilight, when, normally, the bees would have been droning contentedly among the mango blossoms—silence; the tree was almost deserted.

What had happened? I went down to the apiary, peeked into a few supers. There was certainly no lack of activity there; if anything the bees were storing harder than ever. Next morning what it meant was clear. Paradise plant, of which I had not taken much notice, had unobtrusively made a really extraordinary growth. And now it had broken out into a mass of cream-colored bloom and literally stolen the show from everything else.

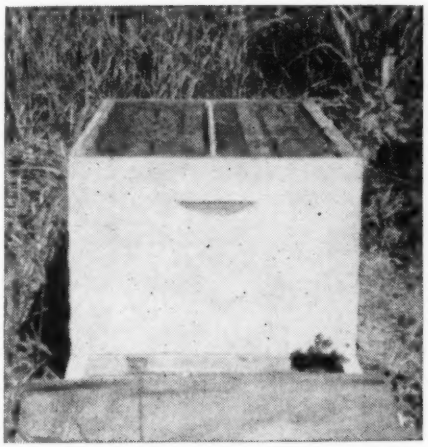
Gratifying as this development was, it was not the best that this wild, sprawling thorn bush had for the bees. After the big blow in August, which carried away most of the roof of our house, played nine-pins with the biggest trees, and produced floods able to lift iron girder bridges off their foundations and roll them down streams, I found (should I say with astonishment) my 20-hive apiary intact. True it is located in a fairly sheltered nook, but I attribute its survival mainly to the most unusual growth that year of cockspur macca, catsclaw, Paradise flower, devil's claws, which had formed a thick, deep hedge on three sides of the bees.

The spreading thorny bushes soon died back and gradually disappeared, until no more than the usual scattered representative remained. There has been no remarkable growth of this plant here since then. Perhaps the conditions that produced it went back to Texas with hurricane Charlie in August, 1951.

U. S. Savings Bonds come in all sizes . . . . . and grow bigger every year.

A Use for an Eight-frame Hive

by MARVIN W. KOSANKE, Ripon, Wisconsin



Front view of hive showing entrance for nucleus on the right.

Rear view of hive showing entrance given to nucleus on the left in picture No. 1.

ALTHOUGH IT IS considered obsolete by most beekeepers, a small amount of eight-frame equipment can be put to good use by any beekeeper.

If by chance one should have some eight-frame equipment stored away or purchased along with some used ten-frame equipment he should not destroy it or give it away.

With just a little alteration it can be made into excellent nuclei boxes. These nuclei boxes can be used for making increase, raising queens, and for keeping surplus queens.

All one has to do is to place a division board in the center of the hive body. Be sure that it fits snugly against the bottom and is flush with the top of the hive body so that the inner cover fits tightly on it. Be sure the hole in the inner cover is closed.

One half of the front entrance is closed and another entrance is given to this compartment in the rear of the hive. Thus one can have two nuclei in the same hive as the colonies will not interfere with each other.

The nuclei boxes made from eight-frame equipment are simple to make, they are inexpensive, easy to handle and are very useful to any beekeeper who desires to use them.

Hive a Swarm the Easiest Way

by BEN H. McNEIL, Saint Rose, La.

I WANT to tell you about the easiest way that I ever captured a swarm of bees. It doesn't happen once in a million times but it worked slick as a dime for me. A short time ago I noticed a few bees playing around the way-bill box on the side of the depot (I am a railroad agent-operator). After pondering the situation a little while, I concluded that the bees must be in search of a new home and that box looked like it might make them a suitable habitation. Well, I figured that I'd help them out if they so desired, so I secured a table and set it near the way-bill box, and then set an empty hive thereon. I got an old comb, filled it with some honey and enticed the bees to take a "nip" and placed it in the hive with a few of them there on. A few hours later I saw the whole herd headed for that box. They went into it just as straight and readily as you or I go into our front door.

XUM

Beekeeping in Central Montana

as practiced by C. J. CLARK, Sun River, Montana

I AM ONLY going to describe how I manage my own bees. Some kill their bees off every winter. Others winter them. I winter mine because I feel that over-wintered bees are stronger and produce more honey than package colonies.

I live in Cascade County about 25 miles west of Great Falls, where the prevailing wind is southwest and blows about 85 per cent of the time during the fall, winter, and spring months. An apiary must be located with an eye to protecting it from these winds.

I do not pack my bees because normally the bees get occasional flights during these chinook periods and packing would only insulate them from the warm air. Even though extremely low temperatures occur during the occasional cold snaps, they are not usually of long duration and bees weather them all right if there is plenty of honey and bees. Only about once in five years or so does the cold and snow last for weeks at a time with temperatures occasionally dropping as low as -40 degrees to -50 degrees or more. Some starvation occurs when the cluster is unable to move to fresh supplies of honey. However, losses are not great enough over the years to go to the expense of packing against this kind of winter.

With the first good flight in February or March I start checking for feed and for dead colonies and close up the latter to prevent robbing, after first brushing out the dead bees. I examine every colony to see if capped honey is visible next to the top bars, and if there is considerable they will be all right for some time. If none is visible I lift the upper of the two hive bodies and if it is light I remove two or three combs and add combs of honey. When I run out of honey I feed dry sugar on top of the inner cover. If bees can fly they will take the sugar. If too weak to take dry sugar it is better to unite with a strong colony.

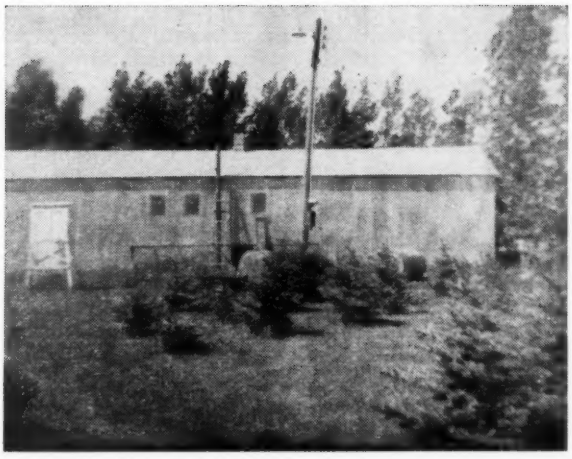
Feeding Pollen Substitute

In late March cakes of pollen substitute, made of 50-50 sugar syrup and factory-mixed soy flour, are given and replaced over the frames until no longer taken, or when pollen is available.

I wait until early April (unless there has been a heavy winter loss) or whenever it is warm enough to check for queenless colonies before ordering packages. I then order twice as many two-pound packages, plus a few extra, and use some for requeening later queenless colonies. Any saved for honey production get one or two pounds of bees from a queenless booster package in about two weeks from arrival date. In June I give more bees to any weak package or over-wintered colonies, provided the queen is good.

I order queens to arrive during the latter part of the dandelion flow, then take two frames of brood and one of honey and start a nucleus over a double division screen on top of a strong colony. I later use these to make two-queen colonies, and if some colony becomes queenless I requeen with one of these.

The dandelion flow normally begins in early May, but much of the time dry weather and cold winds cut the flow and make feeding necessary before sweet clover bloom. However, if the flow is delayed until late May or early June, weather is warm enough so that



My new honey house, 24 feet by 72 feet, was completed in 1956.

there is a heavy flow. Waste lands and alfalfa fields are a sea of yellow and good colonies will fill up to three and sometimes more hive bodies with bees, brood, and honey. Sometimes there is enough of a surplus to extract some and as it granulates quickly it gives considerable trouble at extracting time.

Under favorable moisture conditions there is no dearth after dandelions as we have wild mustard in late May and early June, followed by yellow blossom sweet clover. If we have two or more wet years in succession there is a good flow from this plant on waste lands. What little is raised in fields is cut for hay or plowed under.

Excluders are put on and the queen confined to two hive bodies when the flow from sweet clover and alfalfa is heavy enough so that a third hive body is rapidly filling up. Foundation is also put on at this time.

Alfalfa produces fair to good crops depending on the season. In the days of horse-drawn machinery there was nearly always a good crop, but now-a-days with tractor machinery county agents tell farmers to cut before bloom. The beekeeper must depend on rain at haying time or the press of other work to postpone the cutting. If bloom comes on in June, weather is rarely warm enough for a good flow. July is the only dependable month, weatherwise, and it is not 100 per cent. Summer cool spells can occur any month and when one of these arrives the flow stops as alfalfa must have a temperature of 85 degrees or more to yield much.

Some years August is hot enough to bring a good flow from second crop alfalfa and farmers are usually in not so big a hurry to cut, being busy with grain harvest. However, this is a dry time and many are also too busy to irrigate. If dry the plant will not yield. I have seen fields when the water is just turned on, with bees concentrated on the spots where water is running. The month is warm enough only part of the time for a good flow, some years being cool and autumnlike.

Extracting starts in late July or early August and continues when needed until there is no more alfalfa bloom. Even though September is sometimes hot, danger of frost makes it unsafe to leave alfalfa standing much later than September 1st. There are no fall blooming plants in any abundance. Before removing the last of the supers I check for any light colonies, or queenless ones and save them an extra super if needed. If a queen is missing I requeen with one of my nucs kept for that purpose. Cold summer nights and summer cool spells make a warming room necessary to extract ripe honey from the supers. If one had the time it would be better to extract before combs are fully capped as fermentation is rare in this dry climate.

XUM

G. S-P., the Bees, and Us.

by M. B. EVANS, Nipawin, Sask., Canada

IT WAS all Gene Stratton-Porter's fault. She wrote a book called "The Keeper of the Bees". And, up here, in Northern Saskatchewan's parkland, the flying-off place for all the wilderness of lake and mining country, come February with its snowdrifts and sundogs, we would assuage our hunger for spring by reaching down our copy of her book. One of these springs, we promised ourselves, we were going to keep bees, too.

It was the high, moral tone required to be a Gene Stratton-Porter beekeeper that held us back—we just didn't think that we could be quite that good and, according to the Little Scout, any other kind of a beekeeper didn't last long, getting "pinged to the liver!" To be smell-tested, and found wanting, by a Gene Stratton-Porter bee was an Ordeal. We didn't feel up to it.

Since, however, she had stimulated our interest in bees we began to take notice of the few beekeepers around us. As a result of these observations we figured it would be safe for us to have some bees after all. Despite our terrific admiration for writer G.S-P. we couldn't help but see that bees appeared to be a little more tolerant of human frailities than she believed. (This, of course, being before the Age of Chlorophyll.)

Realizing that we didn't know much about bees, except that they could, according to Porter, smell you out for the hound dawg you were, we decided to add to our practical knowledge by enrolling in the local beekeepers' association. Hardly knowing the difference between a "queen" and a "super" we attended the meeting called to brief the new ones just before the expected arrival of the packages from the South (we were thrilled to learn that "our" bees were coming from California, the locale of our treasured "Keeper of the Bees"). Since we were as green as the spring grass we were puzzled by several things at that first meeting. One of them was the expression on the Bee Man's face as he coped manfully with the enthusiasm of the new members.

An old man, who had kept bees ever since the settlement had been opened up, we looked upon him as the fountainhead of all knowledge—bee knowledge anyway—he was closer to Stratton-Porter's "Keeper of the Bees" than any of the rest of us—so we bombarded him with questions, answering them with our own theories before he could say anything. In fact, we talked too brightly, too confidently, and altogether too much!

As well as attending that meeting we read up on bees. But, as we found out, and as any apiarist can tell you, there is a vast difference between quietly "reading up" on bees and actually handling bees. The first thing we did was to select a site for our "bee-yard". Guided by our little book, courtesy Department of Agriculture, we chose a sunny spot set around with a poplar bluff on three sides, opening out to the east clover field. After we had everything in place we looked upon the setup and pronounced it good; one of the few things on which we have not had to revise our first opinion.

Remembering that Gene Stratton-Porter called bees "God's perfect insect" we vowed to handle ours with care. No rough stuff for us, no siree!

XUM

When we got them off the train all quietly buzzing in their cages they were duly admired by the whole family then installed in their new home. Just like that! We did not understand, then, that there are many hazards attendant to spring hiving and so were spared the anxiety we now experience since learning about supersedure, dwindling, loss of queens, etc. We had still to learn, too, that the "perfect insect" is a good deal more "ornery" than Gene Stratton-Porter would have her public think.

However, that first spring we never thought that but **of course**, our bees would settle down and start working right away. Hadn't we provided them with everything bees could want? Didn't we hover over them every day, nearly bursting with pride and awe as we watched these winged marvels that could turn the nectar of the flowers into the miracle of honey? And we had Gene Stratton-Porter's assurance that bees were smart and knew a good place when they saw one!

Regularly we went through the hives searching for "queen cells", not always sure that this one or that one really was a queen cell but giving it a good poke with the chisel anyway just to be sure. We had gathered that it simply "wasn't done" to have one's bees swarm on one and who were we to do what "wasn't done"? At the meeting called by the Bee Man to see if all the new members were getting along all right and had all the supplies they needed, we vied with each other in praise of our bees.

Never Had There Been Such Bees!

So busy, so quiet, so easy to handle! —"never wear gloves!" we proudly declared. "Why, I went right through the hive—shirt sleeves rolled up, no veil, no gloves," said another "new boy", "didn't have any trouble at all!" and he beamed around the gathering. No doubt about it, whether it was because bees really could tell what people were like as author Gene had it, or it it was just that we had the knack for it, this beekeeping business was a cinch. We felt sorry for those poor beggars who either didn't measure up or else didn't have "a way" with bees.

Thus we were till one fine sunny day when we went out to the bee-yard to make the usual inspection. Casually dressed and followed by sundry, rather fearful neighbors and kids, who, despite our reassuring words, insisted on keeping what they considered a safe distance behind us. We rebuked them for their nervousness and proceeded to demonstrate our "way" with bees. Gently, as we always did, we removed the cover of the first hive.

What followed in that peaceful Eden, sweet with the smell of honey, might well be described as Bedlam Unlimited. Brown clouds of bees boiled up, and then over us; frantic appeals for help were couched in language that would have made Stratton-Porter cringe.

Some were busy breaking speed records and high-jumps in an effort to keep ahead of those Brown Bombers. We were left to cope as best we could which made us a few seconds later than the others in getting to the house.

Safely there at last, with a cloud of the monsters waiting on the screen door, we tried to figure out "what happened?" Why had our little winged friends so suddenly turned berserk? We hadn't done anything! At this point we were reminded by Grandma, whose faith in the "Keeper of the Bees" had never been shaken by any new-fangled notions from the bee journals, that, according to Gene Stratton-Porter, bees can tell immediately if one has been living a Clean Life or the Dark Opposite. "Was all," she queried sternly, "well with our soul?"

Mournfully we applied more mud to the eye and considered the question. Did we **really** reek of sin—well, any more than usual? Before we got right down to it, however, one of the victims reported contact with the Bee Man. "It's the honey flow", he says, "everybody's having trouble". We heaved a gusty sigh of relief and immediately postponed the soul-searching for more formal times, like Sundays and Christmas. It was a great comfort, also, to know that we weren't alone in the bee blitz.

At the next meeting it was a considerably chastened lot of beekeepers that gathered around the Bee Man. That puzzling smile flickered over his face as first one and then another of us detailed our difficulties and the solutions

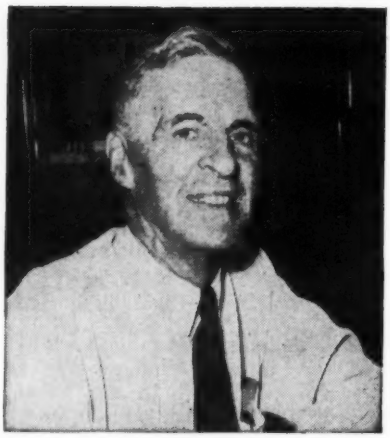
(Continued on page 509)

XUM

A Talk to Beekeepers

With Special Reference to Beginner's Problems

by M. J. Deyell



Jack Deyell

"In a progressive country change is constant". — Disraeli

JUST TODAY I talked with a commercial beekeeper, 62 years old, who mentioned some of the changes that have taken place in beekeeping during the time he has kept bees. When we think about what beekeeping was a little over 100 years ago prior to the invention of the modern movable-frame hive by Langstroth, we wonder how beekeepers produced much surplus honey. The invention of the movable-frame hive in 1851 marked the beginning of a new era in beekeeping. The old box hive with immovable frames made it impossible to remove combs to examine the brood or to requeen the colonies. Our present type of hive makes this possible. We have come a long way during 100 years. The automobile has made migratory beekeeping possible and some of the hive-lifting devices in use have taken some of the backaches out of beekeeping. Yesterday I talked with a commercial beekeeper in Pennsylvania who practices migratory beekeeping and moves sizeable apiaries on a large truck, by himself.

Making Bees Work Overtime

Within the month we had a visit from a young commercial beekeeper from Chile, South America. He operates 600 colonies and is quite successful. He was en route to Canada and mentioned the possibility of engaging in commercial beekeeping in one of the western provinces. He would secure a crop of honey during our summer months, then at the close of the season after removing the surplus, he would shake bees and queens into packages during late September and ship them by plane to Chile. The packages would arrive there near the beginning of the active bee season in that country. They have summer when we are having winter. He would secure a crop of honey in Chile, then at the end of the season he would shake bees into packages and ship them back to Canada in time for a crop.

The foregoing may seem unusual, possibly fantastic to some but we are not saying that it could not be done. The plane would take the packages from Canada to Chile in less than a day. Naturally the bees would be working overtime and so would the owner of the bees if he stayed with them during the entire season in each country. All work and no play makes Jack a dull boy, and such a program might become rather monotonous.

It would seem necessary to requeen at least every six months, since queens would naturally wear out rather soon under such strenuous egg laying.

Taking Off Surplus Honey

So much for moving bees from continent to continent. We must now get down to a consideration of what must be done in the apiary. Beekeepers in the north, both commercial and backlotters, should aim to take off some surplus honey this month, especially in areas where it is necessary to keep the white honey separated from the darker honey that is likely to be stored later on in the season.

Some commercial beekeepers use

carbolic acid pads. This is one way of removing supers of honey to be extracted. The work should be done during warm weather and preferably on a hot sunny day so that the carbolic acid may drive the bees out of the supers. It is necessary that extreme care be taken to avoid having the acid come in contact with the honey. If it does, the delicate flavor of the honey will take on an acid flavor and odor.

In our opinion it is preferable, especially for beginners, to use bee escapes for removing honey. These are available at bee-supply houses for a very reasonable price and will last for many years. The bee escape is placed in the center of the inner cover after the wooden block is removed. The escape board is placed under the super containing the honey to be removed. In less than two days all of the bees in the super or supers will have traveled down through the bee escape into the brood chamber below. It is necessary that there be no brood in the supers of extracted honey. If there is, the bees will not leave it and consequently the bee escape is of no avail.

Before removing combs of honey to be extracted, they should be at least three quarters capped over. In some instances even though the combs are almost completely capped, the honey may not be well-ripened, especially during wet cool weather.

When the bee-escape method is used, it is necessary to check the supers placed on the bee escape board for small openings. If one small opening, large enough for a bee to enter, is left, the bees in the apiary will find it and eventually remove the honey from the super. I have had this happen to me more than once.

Honey Extracting Room Should Be Made Bee-proof

I shall never forget an experience I had in Michigan quite a number of years ago when I converted an old wood shed into a honey house. I tried to make it bee-proof but after the extracting was under way, a temporary dearth of nectar occurred and I discovered that the building was not bee-proof. When the bees get started to rob honey from a building they will hang around for a long time, even though the small openngs have been plugged up. When the honey house door is opened, bees will rush in, in spite of all that can be done.

Who's afraid of the bees? Not George Astell and family of Peterboro, Ontario.

It seems necessary to have a honey house bee escape at the corner of each window and in the upper portion of each screen door. At present I do my extracting in the basement of my dwelling house where the bees cannot get in if I keep the screen door shut.

Extracting Equipment Needed By Small Beekeeper

My equipment is very simple. I use a two-frame reversible extractor which is driven with a small one-fifth horsepower motor. I uncap with an electric knife into an uncapping can, then place the uncapped combs into a wash boiler which catches the drippings until they are ready to be put into the extractor.

I draw the honey from the extractor into a bucket, then strain it through two thicknesses of very fine cheesecloth into a small honey tank. When the weather is real warm, as it should be for extracting, the honey will strain through the cheesecloth quite readily. If the weather is cool, like it is in the fall, it is necessary to draw the honey off into 60-pound cans, then heat the honey in a wash boiler over a hot plate to make

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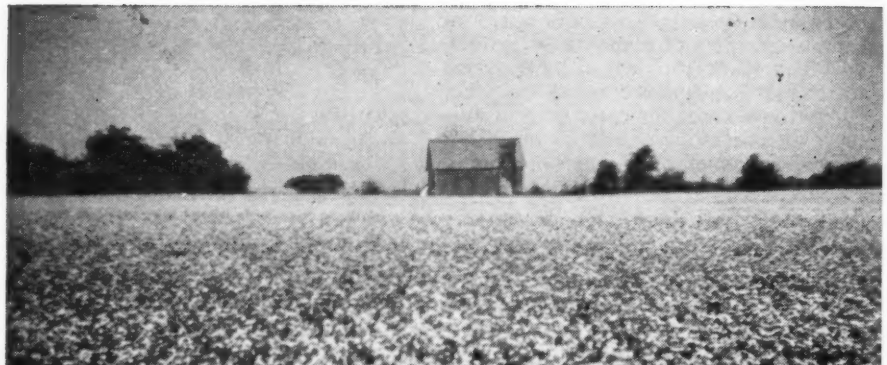


Part of an 18-acre buckwheat field in full bloom. Bees work the blossoms until about 2 P.M. It is inadvisable to work hives late in the day during a buckwheat flow unless you enjoy being stung.

it warm enough to strain properly. If the honey is to be put into glass or tin containers for the grocery trade, it should be heated to 150 degrees F. before being put in the bottles or jars. If, however, the honey is sold locally to people who come after it, heating is unnecessary, especially during the summer months.

Some novice beekeepers are situated so that they can sell honey at the roadside. It is surprising how much honey can be moved during the season if the honey stand is made attractive and the honey containers have eye appeal.

It seems necessary to have a sign near the stand and at least one approach sign about one-half mile on either side of the honey stand to announce the presence of the honey stand ahead. There should be a place to turn off the road near the honey stand.

It can be said that attractive roadside honey stands benefit the beekeeping industry in that honey is called to the attention of thousands of tourists that pass along the road during the summer months.

Buckwheat Honey

There are some people in the East, where buckwheat is grown in quantity, who prefer buckwheat honey to other flavors. It is necessary to remove the white surplus honey from the hives before the buckwheat honey flow starts, usually during early August. If the white honey is not removed the buckwheat gets mixed with the white.

Early last August I was driving to one of our apiaries, and came on to an 18-acre field of buckwheat, as shown in the picture. This field was about a quarter of a mile from the apiary. It was a sight to watch those bees fly to and from that buckwheat field. The apiary is in a small hollow and the bees had to fly out and up over a hill in order to reach the field. Unfortunately, there had been a dearth of nectar during the late summer and most of the colonies had very little honey in the brood chambers and consequently they did not store much surplus buckwheat honey.

Some years ago I used to sell honey in Chicago. I would meet a grocer who said that some of his customers, originally from the East, wanted nothing but buckwheat honey, so I had to find some to meet his needs. It would seem

that beekeepers like the honey they are brought up on.

Requeening When Necessary

During the month of August, in this area, quite a number of old queens are superseded. If I find a colony with an unusual number of drones, I usually find a queen that has begun to out live her usefulness. Apparently the bees know this and start to build supersedure cells. When a queen is superseded there are usually three or four cells built near the middle or upper portion of the combs. Swarm cells, on the other hand, are usually found near the bottom of the brood combs and there may be from 10 to 20, sometimes more cells in one brood chamber.

If the colony that is superseding the queen is of poor stock, I kill the queen and introduce a young laying queen. If the colony is of good stock, I leave the supersedure cells and in due time, if nothing happens to the virgin in mating, I find a young laying queen. In my opinion it is hard to beat queens reared from supersedure cells.

Some years ago we made a practice of requeening all colonies during early August, regardless of the age of the queens. At present, we requeen only when we find that a new queen is needed. Sometimes a queen in her second year of service does better work than a queen less than one year old.

Queens are accepted more readily during a honey flow than during a dearth of nectar. When queens are received through the mail, there are directions for introducing accompanying each shipment.

Some beekeepers have the new queen released too soon after she is put into the hive. The bees should be permitted to eat the candy out of the hole in the end of the cage before the queen is released. Some beekeepers push a nail through the candy in order to release the queen sooner and in some instances she gets out too soon and the bees kill her. The bees usually release the queen in a little over two days and while she is retained in the cage the bees are getting acquainted with her through the wire screen. She gradually takes on the odor of the colony after which the bees are likely to accept her.

Young laying queens introduced this month or early September are likely to produce a considerable amount of brood before cold weather sets in. This means that the colonies going into winter quarters have an abundance of young bees which are essential for successful wintering.

Be Sure to Get the Food Chamber Filled for Winter

In some sections of the country there is a light fall flow. In such regions it seems necessary to get the food chamber filled during late summer and in order to do this it is preferable to confine each queen down to a single brood chamber, having the food chamber directly above the queen excluder. In some parts of the North where there is a heavy fall flow, it is feasible to confine each queen to a double-brood chamber during the late summer and fall months. When the nights get cool the bees will usually fill the food chamber and part of the lower chamber before they put much honey in the supers above the queen excluder.

In any event the food chamber should be well filled in the late fall, in addition to some honey in the lower chamber, in order to be assured of an ample amount of food for each colony during the winter and early spring months.

"You, you peeping Tom!"

B & Z Library

Drone Brood Above Queen Excluder

How Did it Get There?

by HILBERT SORENSEN, Franksville, Wisconsin

ONE DAY last September I was examining my strongest bee colonies to see whether they needed any more empty supers. When I came to the hive at the end of the row I took off the outer cover, then lifted the inner cover an inch or two, and blew in a little smoke. I expected the usual number of worker bees to come racing out, but to my surprise out rushed a lot of noisy drones.

Right away I thought, "Oh! Oh! The queen has her brood nest above the excluder". I must look into this situation. I had taken off two full supers of honey about a month before and there were still two partly filled supers above the excluder.

I lifted the frames out of the top super and examined them. They were partly filled with honey but had no brood of any kind. Next I began to look in the lower super fully expecting to find the brood nest there. To my surprise there was still no brood. I then removed the excluder and took a look at the frames below. There was the brood nest with as nice a lot of worker brood as one would want to see. This proved to me that the queen was below the excluder where she belonged and had never been above as I first suspected.

The presence of the drones above the excluder was still a mystery to me because they could not pass through from below if they had been raised there. Upon further search, I found that two or three combs directly over the brood nest, and above the excluder, had large patches of drone comb. There was no honey in them but gave the appearance of having recently been occupied by brood.

It seemed evident that here were the brood combs in which the drones had been reared. Yet the question is ,"How did the drone eggs get into these combs above the excluder"? The queen was below and could not get up there to do any laying. If she could get above she would also have had worker brood up there.

I venture two conclusions and they are: The queen had laid the eggs in the brood nest below. Then the worker bees carried them up and placed them in the drone cells and raised them there. Or, could it be possible that some of the worker bees could have produced these eggs as drone layers?

This is not the only time I found drone brood above an excluder. Once I found a patch of drone brood as large as my hand in a second-story super. In this instance, the queen was also below with her brood nest.

I have frequently observed that if there is a patch of drone cells in drawn comb used for honey production, the bees will fill all worker cells with honey but will leave the drone cells empty. They evidently expect the queen to fill them with drone eggs. If she does not do this they sometimes manage to get eggs into them in some other way. However, if bees are given a frame without foundation or with just a starter strip, they will build all drone comb. But these they will fill with honey as readily as they will worker comb.

After all, I do not yet know how drone brood gets into the supers above the excluders when the queen has her brood nest below.

POLLINATION OF WHITE CLOVER

(Continued from page 458)

before the blossoms wither, the bees from one colony would probably visit almost every flower in a much larger area of clover.

The experience of beekeepers indicates that white clover is variable as a source of surplus honey. In some parts of Texas, it apparently does not yield nectar profusely; in other parts, the yield is good only in some years. The clover was a good source of nectar in 1956 in the Beaumont area. Even under these conditions, observations indicated that several acres of clover were required for each strong colony of bees to store the maximum amount of surplus honey.

Further study will be required to determine the most economical balance between the nectar needs of the colony and the pollination needs of the clover.

Control Swarming but Save Time

by ROBERT J. WYNDHAM, Upland, Calif.

SWARM CONTROL is the recurring headache for any beekeeper who owns more than a handful of colonies. Still it is possible to save a lot of time in this tedious operation. Inspection of every single comb to look for queen cells and repeating this every ten days, is so time-consuming, that few beekeepers — except perhaps backlotters can afford it. But fortunately there are some handy shortcuts.

The first time-saving measure can be taken early in the season—at the first inspection. Mark the colonies which show exceptional strength "A". These are the most likely to swarm later. The ones of medium strength could be marked "B", and so on. Then when the swarming season is at hand and you are short of time and breath, you know which colonies should be watched and which ones you should not waste time on.

It is easy to heave the supers by the rear far enough to see the bottom bars. Then you drive the bees upwards with a little smoke and inspect the bottom of the combs. If no queen cells are visible there, it is almost sure that the bees have no intention of swarming.

Many beekeepers use swarm cells to requeen colonies whose queens are failing. Finding the old queens to kill them, takes up a lot of time. Still in cases where you have rather weak colonies, whose queens are failing or about to fail, this is not necessary. Just take a ripe queen cell, put it in a cell protector and imbed the protector's spur into a comb with brood. After the virgin emerges she will hunt the old queen and engage in a life or death struggle. This fight will be lost by the old queen, as she is feeble and pregnant and no match for the agile virgin, who will do the dequeening for you. Of course, this procedure is only suitable for colonies who are approaching or are in a state of supersedure.

If you find queen cells about to hatch, it is possible to walk the virgins into colonies which need requeening without dequeening. Be careful though that the virgin does not fly out of your hand. As a rule, the virgins will be gratefully accepted and kill off the old queens.

In spite of every precaution some colonies insist on swarming. Swarms which otherwise would get away, can be hived on the do-it-yourself principle. Simply place a few hives with dark combs at a little distance from your bee yard. If experience has shown that swarms take off say in an eastern direction, these decoys should be placed to the east of the yard.

If you missed the boat and you find a colony which is about to swarm or even in cases that the swarm is already leaving the hive, don't feel sorry for yourself. There still is a fair chance of capturing the fugitives with little effort. But now you have to act fast! Grab a super with combs and lean it against the front of the swarming hive at a 45-degree angle. Often the queen will go in and the workers will follow. As soon as most of the swarm is on the combs, carry the super carefully to the other side of the yard, put it on a bottom board, and your new colony is in business.

It is good practice to check the queen after 21 days. If there is any doubt about her youth, kill her and let the bees raise a new one. Big swarms have an old queen as a rule, while small ones often have virgin queens.

"There are still plenty of pancakes that lack a honey spread."—Beekeepers' News, January, 1954.

XUM

Propolis vs Wood Preservative for Hives

by LUTHER ROBERTS, Switzerland, Fla.

IN THIS age of ever changing weather conditions and more insect pests, we are constantly looking for a tried and proven remedy. Florida climate is ideal for the termites which we call "wood lice". Any wood exposed to the earth, or which comes in contact with other wood when damp, is eaten up with wood lice.

Just painting alone is not insurance against attack. All beekeepers in the warmer climates have learned from experience the results of these attacks on their hives. While my remedy is not new to many, I believe it will help solve the problem. Many believe that the hives treated with oil will not take paint. This is not true. I find that the accumulation of propolis in the hives comes off easily after the oil treatment.

Before the hives are nailed, treat each piece in oil. This oil can be had for the asking by leaving your container at the filling station where they drain cars and trucks. You may purchase new motor oil, if you prefer.

Oil should be warm when applied to insure deep penetration. If it is not possible to put oil in a vat, it can be applied with a paint brush or mop. Be sure each surface is well coated. You can put two applications on within the hour, which is sufficient.

All the oil odor will have disappeared within three days. Hives can then be nailed and painted. A quick drying enamel paint makes a beautiful job. The bottom boards need special attention, as they are the danger zone for termites. Wood lice will not attack an oil treated hive. The inner hive cover treated with oil, will cause the propolis to scrape off with very little work.

I believe all beekeepers trying this method will find that it will keep their losses from insects to a minimum. An oil treated hive will have double life, as it is water repellent, and there will not be the usual rotted spots or edges.

BEE LINES TO THE EDITOR

(Continued from page 452)

to the bee venom only and for whom the bee protein desensitization treatment is worthless.

"I am a beekeeper's son but have never been able to work with the bees because I react so violently to a bee sting. Within 30 seconds after being stung I feel difficulty in breathing. This difficulty increases with each minute until about five minutes after being stung I am gasping and choking for breath. My lips turn blue and I experience shock. Breathing difficulty continues to grow worse and I start to slip into unconsciousness. If given a shot of adrenaline, slow but steady relief begins. If I am unable to get adrenaline, I struggle for breath in a state of semi-consciousness for about a half hour. After breathing returns to normal I experience a severe attack of hives. The day after being stung I will have returned to normal. These reactions occur every time I am stung by a honeybee.

"Two winters ago my parents and I were determined to do something about my condition. Our family doctor made a thorough investigation of possible cures and came in contact with the same theory that was expressed in the July Gleanings. Confident that I was highly sensitive to the bee proteins and not the venom, he procured a bee body extract from the Hollister-Stier Laboratories. I took three shots per week throughout the winter until I was supposedly built up to be able to tolerate a sting. I allowed a bee to sting me in the doctor's office and within one half minute the old, familiar reactions hit me full force.

"Our doctor wrote the laboratories and after making more tests he determined that I was one of the few people who are sensitive to the bee venom and not the bee proteins.

"I have been taking the desenitization treatment for the bee venom for four months and am now built up to tolerate one-tenth of a sting. Progress is slow but this time we know this is the right treatment.

(Continued on next page)

Experience with Queens

by A. N. NORTON, Harlem, Montana

THIS IS about a queen experience I had several years ago. I got some young queens from a breeder in the spring and one of them lost her wings soon after being introduced. She looked rather odd and the bees soon superseded her and she and the daughter both laid together all through that season, and the next spring they were both still on the job and being in a double story 10-frame hive they built up a tremendous colony and made preparations to swarm.

I just got a notion to see what they would do so took all their brood away and left one frame of brood and 19 empty combs below the excluder and put on several stories of empty combs and stacked all the balance of the brood on top. Along in July I took off and extracted 150 pounds of surplus honey and also found a young laying queen up above the excluder. I set her off to one side and examined the colony below the excluder and found the two old queens laying down there side by side.

I put the young queen down at the entrance and let her run in with the other two and put some more empty combs on, also the brood from the young queen. They were at that time a tremendous colony. The two old queens below had a lot of brood. Along toward the end of the flow I took off and extracted another 145 pounds of honey and then forced them to fill their brood chamber. I estimated they had 75 or 80 pounds of honey in the brood chamber. I fixed them for winter the same as the balance of the yard and I think they would have been all right except that winter we had a bad storm and the wind drifted the snow and buried the whole yard down under four feet of snow. When the snow went off in the spring my big colony was dead. It had smothered but the balance of the colonies that were normal were all in fine shape.

(Continued from previous page)

"Not all 'hypersensitives' are allergic to the bee proteins. Anyone planning treatment for sensitivity to bee stings may save themselves a great deal of trouble and money if they advise their physicians to test for both the protein and the venom allergy. Without proper and correct diagnosis, the most elaborate treatment is in vain." — E. S., Montana.

* * * * *

Does Not Favor Reversing Brood Chamber

"Gleanings has some good articles for July. Sunday is generally my day for reading, and as I received July Gleanings yesterday, June 29, I was able to read it through today. Always enjoy your 'A Talk to Beekeepers'. Yes, Mr. Deyell I too have quit reversing brood chambers. Early in the flow I let the queen go where she wants to. This holds down swarming. Then, as the flow wanes she is put down under an excluder.

"As to the article on 'Swarm Control and More Honey by Changing Old Combs for Foundation', it probably has some merit, although we have combs that are in use since we commenced beekeeping back in the 20's and do not see any difference in the size of our bees. As to amount of honey stored, I believe colonies on old combs store as much as on new combs."—C. K., Mo.

* * * * *

Attention: Picture Editor

"Every time my eye falls on the July cover of Gleanings, and I read the description of that picture on page 423, a flock of question marks obscures my vision. Such as:

"Is the **picture** and the **description** a gag? If not, why the entrance feeders at a time of heavy honey flow? And since when did beekeepers (other than amateurs) wear gloves? And as to tying the pant leg bottoms—my experi-

(Continued on pave 509)

Getting Bees Ready for Winter

Reprinted from the North Arkansas Beekeeper.

AUGUST IS THE time to make plans to get the colonies in shape for next year's honey flow.

Before winter starts a lot of work must be done. If a colony has not been strong during the summer and there are signs of the queen failing, noted by the presence of very limited areas of brood, something must be done at once. Let's see what constitutes a good strong colony. During the spring the queen should be fertile enough to have brood in 10 to 14 combs in the two-story brood chamber. Such a queen, under fair management will have a good strong colony in August. If the queen is failing the brood will be spotty, that is, in small amounts on just a few combs. In such instances, introduce a new queen by the first of September at the latest so she will have time to lay enough eggs to have a fairly strong force of young bees to go into winter quarters.

However, if a colony has the appearance of being subnormal when it is examined it is probably queenless. One indication of queenlessness is the presence of drones among the bees. If weak, they can be united with other colonies.

A colony (with a queen) if it is below par in strength so it might not survive the winter can be united with another colony.

During the fall flow when the bees are busy in the field, is a good time to give each colony a thorough examination before cool weather sets in. All inferior queens should be removed and replaced with young vigorous laying queens. This is very important because such queens may fizzle out before spring and this will result in queenlessness.

September is a good month to check for brood diseases. In no case should a colony with American foulbrood be permitted to go into winter quarters. All diseased colonies should be destroyed and the contents of the hives disposed of.

This is the month to feed sulphathiazole to protect bees against AFB as soon as the surplus honey has been taken off.

A Safe Method of Requeening

This method has been practiced during several seasons and at various times, during a dearth of nectar, and as late in the season as October.

It consists of impregnating the cage containing the new queen to be introduced with the odor of the old queen. This is done by rubbing the cage on all sides and ends with the body of the old queen.

The cage is then placed between the two frames where the old queen used to lay. By doing this the escorts of the old queen will follow her scent and work to liberate the new queen.

Don't Divide Colonies in the Fall

Under no circumstances should this be done, for strong colonies in the fall, given an abundance of stores of good quality honey, are most likely to result in strong colonies in the spring. It takes strong colonies in the spring, given proper management to be strong and ready for the major honey flow. It is the strongest colonies as a rule, that store the largest crops of honey.

Our Cover Photo

AS WE get around the country we see all sorts of apiaries, some spic and span like this one and others like a forced landing. Bees in painted hives that are in straight rows may not gather any more honey than bees in crooked rows but they do have a better appearance.—Photo from Vernon Reuter, Milford, Indiana.

Asked & Answered

Pure-bred Queens Remain Pure

Question: If a pure-bred Italian queen is introduced into a colony this fall will she mate with other drones next spring and produce impure bees?

Answer: No. Queens mate only before they begin egg laying, so that a purely mated queen remains pure, no matter what kind of drones may be in the locality. This makes it possible to Italianize an apiary by introducing purely mated Italian queens, for there is no contamination during the lifetime of the introduced queen. The daughters of a purely mated Italian queen, however, may be mismated; but even then the drones from these daughters are pure Italians, thus increasing the chances of pure mating after the apiary has once been Italianized.

Too Much Space at the Sides of the Brood Chamber.

Question: I find considerable space left on one side of a ten-frame brood chamber. What will I do about it?

Answer: It is a fact that there is some space left in a hive after ten new frames are put into a brood chamber. However, the end bars of the frames swell or expand somewhat, due to moisture within the hive and this swelling helps to take up some space. Furthermore, the bees will propolize the edges of the end bars. When placing the frames in your hives, you should leave equal space at each side of the hive. You will find as time goes on that this space will be taken up or occupied by the frames.

Novel Way to Introduce a Queen

Question: Would it be practical to introduce a queen from the south by the following method? Put two or three frames of brood along with drawn combs into an eight-frame hive body. Then drive a few pounds of bees from the parent hive through an excluder into this division. Insert the queen cage and close both hives, leaving a narrowed entrance on the division. This would be attempted in the middle of May and about noon in an effort to use young bees.

Answer: It should be possible for you to divide your colony, giving the new division a young, laying queen, by the method outlined in your letter. We assume, of course, that you would set the new division off on a new stand and reduce the entrance down to small dimensions, since some of the bees in this division would return to the parent hive. You should also make sure that this new division has either combs of honey or is fed sugar syrup. It would be well to shake some combs of brood with emerging bees from the parent hive into the new division, making sure that the old queen is left on the parent stand. If this dividing is done during a honey flow in the spring, you should be successful.

Sugar Syrup for Spring Feeding

Q. I understand that raw nectar is roughly speaking 80 per cent water and 20 per cent sugars. Now, in stimulative spring feeding how would the same proportions of granulated sugar and water suffice? I notice some bee books advise a fat richer mixture; something like 50-50 or so. What would you advise?

A. There is a variation in sugar contents of different nectars, that is, nectars from different plants. The average sugar content is between 60% and 70% water or moisture. As you doubtless know, the average moisture content in honeys is about 18%. When making sugar syrup for feeding in the spring, most beekeepers use 50% granulated sugar and 50% water. For fall feeding, a mixture of two parts sugar to one part of water is considered advisable. When the sugar syrup is too thin, the bees have to expend considerable energy in evaporating or driving off the excess moisture from the syrup. It would seem advisable to use thick rather than thin syrup—even for so-called stimulative feeding in the spring.

Sterilizing Queen Excluders

Q. Which is the best method to sterilize queen excluders that have been on foul brood colonies?

A. The method to be applied would depend somewhat on the kind of queen excluders you have. If they are metal queen excluders they can be boiled for 20 minutes in water, being sure to keep the excluders submerged beneath the surface of the boiling water. A similar method can be used to sterilize wood wire excluders. However, after removing these from the boiling water they should be stacked up, criss-cross, that is, the first excluder lengthwise and the next excluder crosswise until all of the excluders are in a pile, so arranged that the air can get through between the excluders. A heavy stone or brick should be placed on top of the pile to prevent the wood in the excluders from warping.

Just News

The **Palmetto State Beekeepers' Short Course** will be held during the annual Farm and Home Week at Clemson College, S. C., August 13 and 14, 1957. Visitors are welcome.—E. T. Anderson, Sec. & Treas.

The **Worcester County (Mass.) Beekeepers' Association** will hold its August meeting at the home of Mr. and Mrs. Carl Brackett, 208 Laurel Street, Oakdale, Mass., on August 10 at 1:30 P.M. All members are requested to be present for the election of officers. Bring a basket lunch, your tables and chairs. Coffee and sweet corn will be served.—Peter S. Stapor, Publicity.

The **Westchester County Beekeepers' Association** will hold its next meeting at the summer home of Mr. and Mrs. Jack Ross, at Shrub Oak, N. Y., on Sunday, August 18th, from 12 noon on. All members and visitors are requested to bring their own picnic lunch and if possible some chairs. Don't forget to bring your bathing suits, as there is a lake for those who wish to swim. Coffee and cake will be served. Please follow these directions. Take Taconic Parkway, get out at Shrub Oak exit (Oscawana), turn left, continue with Route 6 through Shrub Oak—pass Socony Station—drive two more blocks, turn right at Mill Street. Pass a traffic light, continue until you reach a blinker, turn right when you reach a fork in road—there is Taibis Grocery Store —turn left up a hill, continue for two blocks. A luncheonette is on the right and Maple Hotel on the left, turn left, go one block, then turn left again or ask where Boxer lives. Our house is on dirt road opposite the Boxers'.—Mrs. Alfred Roth.

The **Midwestern Beekeepers' Association** will hold its annual picnic on Sunday, August 4th, 1957, noon to 5:00 P.M. at Shelter House No. 7, Swope Park, Kansas City, Mo. A basket dinner will be served with an interesting program planned and many prominent beekeepers expect to attend. . Everyone welcome. — J. F. Maher, Secretary.

The **Vermont Beekeepers' Association** will hold its annual summer meeting at the home of Mr. William J. Damour, 737 Main Street, Bennington, Vt., August 24. Business meeting at 10:00 A.M.; picnic lunch at 12.00; afternoon program starts at 1:00 P.M. Anyone interested is welcome to attend, whether or not he has bees. We are planning an impromptu afternoon program so that anyone will have an opportunity to ask questions and get answers and opinions from authorities on the subject. Bring samples of your honey for the honey table to compete for prizes.—Clyde N. Wood, Sec.

The **summer meeting of the North Carolina Beekeepers' Association** will be held at Valle Crucis, N. C., on August 16 and 17 in the mountains of western North Carolina about 10 miles from Boone, N. C. Requests for room reservations may be sent to L. E. Tuckwiller, County Agent, Boone, N. C. W. A. Stephen, N. C. Extension Beekeeper at State College, is arranging an interesting program.—B. E. Grant, Recording Secretary.

Texas Bee School—More than 100 beekeepers attended the first South Texas Bee School sponsored by The A. I. Root Company of Texas. Beekeepers were especially interested in the honey plant display and talk by L. R. Bellinger, president of the San Antonio Beekeepers' Association. Chas. Lesher did the honors of installing a package of bees, and he described the different ways it could be done. The success of this school makes it very likely that another one will be held again next year covering different phases of beekeeping.

Mr. George P. Georghiou, Apiculturist for the Department of Agriculture on the Island of Cyprus, will join the Department of Entomology at the University of California this September. Mr. Georghiou, who received his B.S. and Masters degree from Cornell University, studied beekeeping under Dr. E. J. Dyce. Georghiou obtained his practical beekeeping experience by

working for a commercial beekeeper in New York, and as a bee inspector for the same state.

1957 Beekeeping Short Course
Virginia Agricultural Extension Service
in cooperation with the
Richmond Beekeepers' Association
August 9 and 10
Central National Bank Building
3501 W. Broad Street
Richmond, Virginia

4 to 5 P.M. Registration—A small registration fee will be charged to defray expenses.
5:00 Welcome — Pres. of Richmond Beekeepers' Association
5:15 Announcements
5:15-5:40 Clarification of beekeeping terms—J. O. Rowell, V.P.I. Blacksburg
5:40-6:10 Colony development in relation to the hive—J. M. Grayson, V.P.I., Blacksburg
6:10-7:00 Supper
7:00-7:15 Movie—"Apiculture" (color)
7:45-8:15 Methods employed in swarm control—J. M. Amos, V.P.I., Blacksburg
8:15-9:15 Effects of fungicides on honeybees—C. R. Willey, State Entomologist, Richmond
9:15-9:45 Discussion of hybrid bees
9:45-10:00 Questions and Answers

August 10 — 10 A.M.
R. B. Marshall's Apiary
4015 Northrop Street

10:00-12:00 Demonstrations
a. Various methods of queen introduction—J. M. Amos, Blacksburg
b. Colony development—L. P. Arnold, Richmond
c. Methods of removing honey —R. B. Marshall, Richmond
d. Bee diseases — H. W. Weatherford, Vernon Hill
e. Super lifting device—Mrs. L. E. Wise, Richmond
f. Placing foundation in supers William Haug, Richmond

12:00 **Lunch** — Bring a basket or covered dish to put with that of the other beekeepers for a picnic lunch. This will be the summer picnic of the Richmond Beekeepers' Association. Visitors away from home need not bring a dish but may buy potato chips, fruit, cookies, etc. The Richmond Beekeepers have agreed that no one will go hungry! Come and bring a friend. Games and fun for the children in the afternoon.

The **Washintgon State Beekeepers' Association** will hold its annual potluck picnic at **Ohanapecosh Hot Springs Camp Grounds** on Saturday, August 3, 1957, at 12:00 noon. There will be a short business meeting following the picnic. Ohanapecosh Hot Springs is located in the southeast corner of Rainier National Park. Take either Chinook Pass or White Pass Highways and watch for Ohanapecosh signs.—Mrs. E. B. Purchase, Sec.

A CORRECTION

On page 369 of the June issue announcement and program of the **Beekeepers' Short Course** was given. The fee for this Course should have been $7.25 for Pennsylvania beekeepers and $12.25 for out-of-state beekeepers.

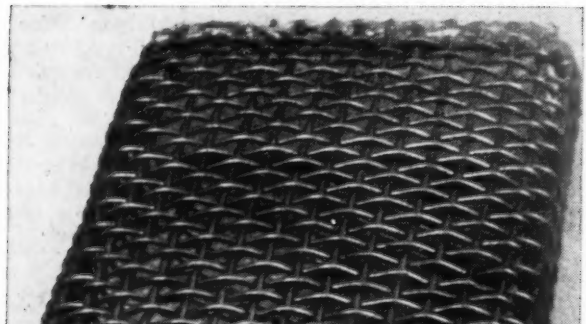
On August 17, a joint meeting of the **Massachusetts** and the **New Hampshire** beekeepers will be held at the Field Station of the University of Massachusetts at Waltham, Mass. This will replace the summer meeting usually held at Amherst sponsored by the University of Massachusetts. Those cooperating in this innovation include Dr. Roger Morse, Waltham Field Station; Mr. Henry Neunzer, President, Middlesex County Beekeepers' Association; Dr. Herman Sander, President of the New Hampshire Beekeepers' Association; Wallace Parker, Secretary, and other representatives from the Massachusetts Federation of Beekeepers' Associations; and Dr. Frank Shaw, University of Massachusetts. While the exact details of the meeting are not available at present, we expect to have a program that will be interesting and of value. The facilities at the Field Station in Waltham are excellent. All persons interested in beekeeping are urged to attend.

The **summer meeting of the North Carolina Beekeepers' Association** will be held at Valle Crucis, N. C., on August 16 and 17 in the mountains of

(Continued on page 508)

A Sturdy Queen Cage

by ROBERT A. STAUBLE, Techny, Illinois



CAGES OFTEN create a problem when it comes to introducing queens. Small entrances often damage laying queens, and the cages themselves are often of such light material that they are easily ruined and just when you want a cage most you can't find one. I solved my problem by making a sturdy cage with a large entrance. I cut a 3½" x 4" rectangle of hardware cloth and folded it around a strip of lath to shape. Then I fixed a hardwood block solidly in one end (1½" x ½" x ⅜" block). In the hardwood block for the other end I drilled for queen escape (a scant ⅝" diameter). When introducing a queen the hole can be filled with cage candy or even lightly stuffed with tender green grass or soft tissue paper. I have used all in various emergencies with good results. The cage with queen may be put on the floor inside entrance, but preferably between two frames. Within three days she should be at work. The main advantage of this cage is that it is sturdy and will take hard use, as well as the removable escape block for the queen which provides a large entrance for inserting the queen assuring no damage to her.

MOVING BEES THE EASY WAY

(Continued from page 463)

colonies to fall to the ground. I have had this happen to me. And believe me, it is not a very pleasant experience!

After the bees are securely tied, I now tighten the hoist fork up under the back of the truck frame by pushing the up switch, and this holds the fork, the hoist, and boom in place while traveling. Then I throw the switch to where the truck generator will charge both six-volt batteries. One is the regular truck battery, the other one is an extra attached to the truck frame.

A nice feature about this hoist is that there are 12 volts only on the hoist and six volts on the truck. One can operate the truck motor and hoist motor at the same time if one wants to. I listen to my radio and load bees at the same time. While I am going to the new location, some 30 or 40 miles, the truck generator charges up both batteries.

Buy and Sell

Only responsible advertisers and honest advertisements will be admitted to these columns. References required from new advertisers not known to us. Rate: 18c per counted word, each insertion. Each initial, each word in names and addresses, the shortest word such as "a" and the longest word possible for the advertiser to use, as well as any number (regardless of how many figures in it), count as one word. Copy should be in by the 10th of the month, preceding publication.

HONEY FOR SALE

WE BUY AND SELL all varieties of honey. Any quantity. Write us for best prices obtainable. The Hubbard Apiaries, Onsted, Michigan.

IOWA honey, one can or truck loads. Russell D. Smalley, Beaver, Iowa.

CLOVER extracted honey in sixties. Abram Brubaker, Rt. 2, Lancaster, Pa.

ORANGE HONEY, also amber in new sixties. Peter W. Sowinski, Fort Pierce, Florida.

CLOVER, sixties and five pound pails. Heated or unheated. Also amber. M. E. Ballard, Roxbury, New York.

MICHIGAN'S finest raspberry, basswood, clover comb honey, in 4 x 5 window cartoned cellophane wrapped sections. Extra fancy, $8.00; Fancy, $7.00; No. 1, $6.00; No. 2, $5.00 case. E. Z. Quick Way B Farms, Boyne Falls, Michigan.

2-lb. size fancy white tupelo and gallberry chunk comb. Write for volume prices. A. V. Dowling, Valdosta, Georgia.

HONEY AND WAX WANTED

BEEKEEPERS TAKE NOTICE—We can not guarantee honey buyers' financial responsibility, and advise all beekeepers to sell for cash only or on C.O.D. terms except where the buyer has thoroughly established his credit with the seller.

WANTED—All grades of extracted honey. Send sample and price. Deer Creek Honey Farms, London, Ohio.

CASH FOR BEESWAX. Write as to quantity and we will quote price. Muench-Kreuzer Candle Co., Inc., Syracuse, N. Y.

WANTED—White extracted or comb honey. Send sample. Millersport Honey Co., Millersport, Ohio.

BEST CASH DEAL for your honey (any grade) and beeswax. Alexander Company, 819 Reynolds Road, Toledo, Ohio.

HONEY WANTED, all grades in 60's. Mail samples, advise quantity, best price. M. R. Cary Corp., 219 Washington Square, Syracuse 8, New York.

BEESWAX WANTED—Highest prices paid in cash or trade for bee supplies. The A. I. Root Company, Medina, Ohio; Council Bluffs, Iowa; San Antonio, Texas.

WRITE FOR SHIPPING TAGS and quotations on rendered beeswax. We buy from one pound up and if you have over 25 pounds let us work it into foundation for you at a 25 per cent saving. Walter T. Kelley Co., Clarkson, Kentucky.

WANTED: Light amber clover, fall flowers, buckwheat, and white clover. Send sample and lowest price. Cloverdale Honey Co., Fredonia, New York.

WANTED—Honey in 60 pound cans, also beeswax, any quantity. L. E. Allen, Tipton, Mich.

CASH for Amber and Buckwheat Honey. Best cash price for wax. Hubbard, Onsted, Michigan.

WANTED—Buckwheat and light amber honey. Eastern Food Products, 421 Bedford Ave., Brooklyn, N. Y.

WAX WORKERS render and buy beeswax, manufacture plain and WAVYWIRED foundation. Prices and shipping tags on request. WAX WORKERS, Ithaca, N. Y.

WANTED, chunk comb and extracted honey. Mail sample and price. Stoller Honey Farms, Latty, Ohio.

WANTED—Honey small or large lots. We pay cash. Tideswell Supply Co., 2711 No. 63rd St., Omaha 4, Nebraska.

FOR SALE

WRITE FOR CATALOG—Quality Bee Supplies at factory prices. Prompt shipment. Satisfaction guaranteed. The Hubbard Apiaries, Manufacturers of Beekeepers' Supplies and Comb Foundation. Onsted, Michigan.

THE BIGGEST BEE SUPPLY Catalog published (64 pages) free for the asking. Listing many items not found in other catalogs. No agents—buy direct and save 20%. WALTER T. KELLEY Co., CLARKSON, KENTUCKY.

FOR SALE—New heart cypress 10-frame bottom boards. KD, 10 or more, $1.00 each; 50 or more, 90 cents each; 100 or more, 85 cents each. One nailed up sample postpaid, $1.25. Fred L. Poole, Elizabethtown, Rt. 2, Box 67, No. Car.

QUEENBEE PAINTING OUTFITS, $1.50 postpaid. Southwick Apiaries, Waban, Mass.

FOR SALE—3000 60-lb. good used cans, 25 cents each. You come and get them. Will not ship at above price. Honeymoon Products Co., 39 East Henry Street, River Rouge 18, Mich.

FOR SALE: Beekeeping business including equipment, shop, and two-apartment home. Centrally located in Portland, Michigan. Easy access to markets and supplies. Owner wishes to retire. Terms. Portland Realty, Portland, Mich.

FOR SALE—10,000 good used 5-gal. honey cans, .30 each. FOB C. G. Hendricks, 5206 N. 124th St., Butler, Wis. Box 461.

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HONEY WANTED
Carloads and less than carloads. Mail sample and best prices in all grades.
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Oconomowoc, Wisconsin

THREE-BAND ITALIANS
Quality and service guaranteed to please.
W. E. PLANT
HATTIESBURG, MISS.

Three-Banded Pure Italian Hybrid Package Bees and Queens
Write for prices.
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Italians **Caucasians**
Nice large queens, each 70c
For air mail, add 5c each.
Large producer of Royal Jelly.
Send us your order of 1 or 1000.
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HOLLOPETER'S Italian Queens
June 1st - Dec. 1st, $1.00 Each
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Improved designs, embodying color, balance, simplicity, and distinction. Please send for free samples & prices.
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FINAL OFFER TO SELL. Old Taylor Honey Co. Honey Packing Business. Packing facilities and market for several million pounds of honey per year. Operating Chandler, Okla., 35 years. Still a money-maker. Excellent building and equipment at 15% of present new cost. You need $10,000.00 cash. I must retire. L. D. Taylor, Harlan, Iowa.

FOR SALE—Root 3-frame extractor, new. Irvin Van Devier, 316 N. Court St., Medina, Ohio

FOR SALE--Reconditioned 45-frame Root extractor, pump attached. 100-150 drawn comb shallow supers. 150 queen excluders. 1687 Fase St., Ada, Mich.

FOR SALE—Universal honey extractor, 4-8, gate, ¼ motor, capping baskets, good condition, $50.00. Write Frank Tower, Lakeland, Mich.

TWO HONEY MIXING AND STORAGE TANKS. Closed, double-jacketed enamel-lined with agitator. 1,200 and 5,000 pound capacity. A. I. Root Company, Council Bluffs, Iowa.

FOR SALE—2-frame Root reversible extractor; 45-gal. honey tank; 45-lb. brood foundation. Ralph L. Veltier, R 2, Delphos, Ohio.

BEES AND QUEENS FOR SALE

We use all possible care in accepting advertisements but we cannot be held responsible in case disease occurs among bees sold or if dissatisfaction occurs. We suggest that prospective buyers ask for certificate of inspection as a matter of precaution.

CARNIOLAN and CAUCASIAN Bees for 1957. Booking queens. Each, $1.00; 2-pound bees with queen, $4.00; 3-pound bees with queen, $5.00. Lewis & Tillery Bee Co., Rt. 3, Box 251, Greenville, Alabama.

CAUCASIANS—Very hardy, good working, gentle bees. "Hastings" breeder queens used. Young laying queens, $1.25 each, any number. Fred Brock, McDonald, Tenn.

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450 colonies bees. No disease. Extra equipment. Large fire-proof shop. Good clover locations. Wilburt A. Walker, Port Austin, Michigan.

Dadant's Starline Hybrids and our regular strain of three banded Italians. Real workers and very gentle; 1 to 25, $1.10; 25 to 100, $1.00; 100 up 90c. Add 25c to each queen for Starline hybrids. Alamance Bee Company, Geo. E. Curtis & Sons, Graham, N. C.

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ROYAL JELLY in capsules. Box of 30 with 25 milligrams royal jelly, $2.50 to beekeepers, retails for $5.00. Box of 30 capsules. with 50 milligrams, royal jelly, $4.35 to beekeepers, retails for $8.50; 25 milligram in bulk of 1000 capsules, $75.00; 50 milligram in bulk of 1000 capsules, $135.00. Postage paid in the U. S. Prairie View Honey Co., 12303 12th St., Detroit 6, Mich.

ROYAL JELLY BEAUTY CREAM. 1-oz. Royal Jelly beauty cream, $3.00; $20.00 per doz.; 2-oz. Royal Jelly beauty cream, $5.00; $38.00 per doz. Prepaid anywhere in the U.S. Prairie View Honey Co., 12303 12th St., Detroit 6, Mich.

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PURE ROYAL JELLY fresh from hive 5000 mgs. 25-day supply, $10.00. Agents wanted. Mrs. E. Stone, 643 Egan St., Shreveport, La.

ROYAL JELLY. Nationally known "Api-Vitalex" brand hi-potency Royal Jelly products. Capsules and Beauty creams. Wholesale distributors and agents sought everywhere; particularly among beekeepers. Large profits available. Write airmail for prices and literature. "Api-Vitalex" Dept. BG; Box 6674, Medical Center Station, Dallas 19, Texas.

Are you still feeding your honey to thousands of Drones? The OBSERVATION Trap will eliminate drones, prevent loss of swarms, and pay for itself many times over. Lasts a lifetime. $3.95, postpaid. Patent, Service Associates Haverhill, New Hampshire.

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Know interesting facts concerning the bees of India through the INDIAN BEE JOURNAL, published in English by the Bhupen Apiaries (Himalayas), Ramgarrh Dist. Naini Tal, U.P. India or available through them. Subs. Rs9/ or 15 shillings or $2.25 yearly. Sample copy post free for Rs ⅛, or s2/6, or 40 cents (International Money Order). Payment in mint postage stamps of your country accepted.

YOU'LL LIKE GOAT MILK! Profit and health with dairy goats. Sample monthly magazine and information FREE. Dairy Goat Journal, Dept. T., Columbia, Mo.

BEE WORLD, the international journal of the Bee Research Association published monthly, contains the latest research reports on bees and beekeeping. With Apicultural Abstracts it costs $5.50 per annum, or $6.00 including membership of the Bee Research Association. Apicultural Abstracts only $4.50 per annum from the Hon. Subscription Secretary, Bee Research Association, 10 Barnett Wood Lane, ASHTEAD, Surrey, England.

Read the South African Bee Journal. Published every two months. Subscription 7/6 per year to the Treasurer, P. O. Box 3106, Cape Town, South Africa.

DO YOU FIND it difficult to secure information about sheep and sheep ranching methods? The SHEEP AND GOAT RAISER reaches more sheepmen with more information on range sheep than any other magazine published. Subscription $3.00 .Box 189, San Angelo, Texas.

The Rush is Over

We can fill queen orders on time so requeen with good queens while they are cheap. Our 100 per cent SATISFACTION has been good for 46 years. Let us prove it.

Untested queens $ .75 ea.
50 up ..... .65 ea.
Tested queens, 1.50 ea.

Merrill Bee Co.

P.O. Box 115, State Line, Miss.

Top Quality Queens
Caucasian & Italian

1-24 ..... $ .80
25-99 ..... .75
100 up ..... .65

Farris Homan
Shannon, Miss.

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ROYAL JELLY

Booking orders for 1957 season.
1 to 24, $1.25 25 to 99, $1.15 99, up $1.05
Write for jelly prices.

LITTLE'S APIARIES

P. O. Box 122 Shelbyville, Tennessee

Canada's
National Monthly Magazine
for Beekeepers
Canadian Bee Journal
Streetsville, Ontario, Canada

XUM

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Your Choice of Two Outstanding Strains

DADANT'S Improved Starlines or
YORK'S Quality Bred Italians

Italians		Starlines	
1-24	$1.00	1-24	$1.30
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The Preference of Leading Honey Producers

Reg. U. S. Pat. Off.

YORK BEE COMPANY Jesup, Georgia

(The Universal Apiaries)

GARON'S TOP QUALITY QUEENS

For the Balance of the Season

Dadant Starline Hybrid Queens		Garon's 3-Banded Italian Queens
1-24	$1.30	90c
25-99	1.20	80c
100-up	1.10	75c

Upon request queens clipped and marked free.

GARON BEE COMPANY Donaldsonville, La.

QUEENS

ITALIANS CAUCASIANS

We surely hope you had a good honey crop this year and now that it is over, better start thinking about next year. Get a good, young queen in those colonies, leave them plenty of honey, cull out all of those weak ones, and you will be well on the road to good, strong colonies next spring.

PRICES

In lots of		In lots of	
1-24	90c each	25-499	80c each

Tested queens ..... $2.00 each

Airmailed and/or clipped—no extra cost.
You must be satisfied—queens will be replaced or your money refunded if you are not.

THE STOVER APIARIES

Mayhew, Miss.

PACKING CHUNK HONEY

(Continued from page 459)

The regular line of honey jars, for instance the one-pound jar holding one pound of strained honey has a fluid ounce capacity of 11½ fluid ounces and as the comb in the chunk honey pack takes up more space I use a jar holding 12 fluid ounces, and the same rate applies to other size packs of chunk honey if you are packing with a large sized piece of comb honey. Also the jars should be filled full of strained honey over the comb honey as any air space left under the jar cap hastens granulation.

The larger percent of comb honey in the jar attracts the prospective buyers' attention.

Before cutting the comb from the frame, hold the comb up to a light or window to detect any cells of pollen marking the location of the cells of pollen so these pieces of comb can be discarded, as cells of pollen in the jar of chunk honey are not desirable.

A satisfactory way of packing is to put the pieces of cut comb in the jars, inverting them several hours over screens letting all excess honey drain away from the cut comb and then filling the jars with strained honey that has been preheated as hot as possible without damage to the honey and then cooled to a degree so it will not melt the comb in the jar.

Before filling the jar with strained honey any excess bits of wax should be removed with a clean cloth from the top edges of the jars so the caps screw down perfectly.

A clothesline full of clean dish towels is a very good advertisement to a honey buyer in any honey house.

Although I pack white and water-white honey there are many flavors or sources of amber-colored honeys that make good table honey and find a ready market in localities accustomed to these types of honey.

Let us all continue to pack as fine a jar of chunk honey as possible because it keeps before the buying public the picture of pure honey as it is made by the bees.

THANK YOU:
For the Nice
PACKAGE BEE
Business you
gave us this spring.

We are proud of our ability to again ship your orders on time with practically no loss in delivery reported. Our queen yards produced the most satisfactory results ever, in spite of much cool and unfavorable weather.
Queens available through October.

	Reg. Strain	Island Hybrid
1-25	.90 ea.	$1.20 ea.
26-99	.80 ea.	1.10 ea.
100 up	.75 ea.	1.05 ea.

Queens clipped and/or marked on request only.

Rossman Apiaries

P.O. Box 133 Moultrie, Ga.

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Fine selected strain by 45-year experienced queen breeder.
75c ea. 6 for $4.25 10 for $7.00

G. H. MERRILL
302 Beatrice, Greenville, S. C.

BETTER-BRED QUEENS
Three Banded Italians
Queens remainder of season
70c each
CALVERT APIARIES
Calvert, Alabama

SOLD out of all
Bees & Queens
for 1957
CLOVERLINE APIARIES
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COLUMBIA, S. C.

U. S. Savings Bonds come in all sizes . . . . .
and grow bigger every year.

WILBANK'S — ITALIAN QUEENS

For your summer and fall queen needs we offer you an outstanding Strain of Three-Band Italians and can furnish Select Young Laying Queens promptly on receipt of your order. Caged fresh from our yards and Rushed to you Prepaid by Air Mail

Prices

1-9, $1.00 ea. 10-49, 90c ea. 50 up, 80c each

Tested Queens ..... $2.00 each

Quality Does Not Cost — It Pays

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SUE BEE SAYS:
Don't Lose Part of Your Crop for Lack of Equipment.

We have a large supply of hives, supers, frames, and SUE BEE FOUNDATION in all sizes ready for immediate shipment.

Standard Frames, 50	**$6.25**
Standard Hive Bodies, 5	**9.95**
6⅝ Supers Empty, 5	**8.65**
8" Hive Tool	**1.25**
Folding Veil	**1.50**
Smokers	**2.65**

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American Bee Journal
HAMILTON, ILLINOIS

U. S. Savings Bonds come in all sizes . . . . . and grow bigger every year.

JUST NEWS

(Continued from page 501)

western North Carolina about 10 miles from Boone, N. C. Requests for room reservations may be sent to L. E. Tuckwiller, County Agent, Boone, N. C. W. A. Stephen, N. C. Extension Beekeeper at State College, is arranging an interesting program. —B. E. Grant, Recording Sec.

The next meeting of the **Norfolk County Beekeepers' Association** will be held Sunday August 4, 1957 at 2 p.m., at the home of Mr. and Mrs. John Heemskerk, 13 Beech Street, Needham Heights, Mass. Please plan to come and bring your lunch, chairs, etc.— Edith L. Colpitts, Corres. Sec.

The **Northwest Michigan Beekeepers' Association's summer meeting** will be held in Copemish on August 11. The out-of-state speaker will be M. J. Deyell, Editor of Gleanings in Bee Culture.

A CORRECTION in May 1957 issue. Under extension work, page 301, "No" is given. J. E. Eckert should have been listed as teaching extension and research.

TOO LATE TO CLASSIFY

TWO QUEEN-BREEDERS wanted. Salary good for capable sober man. O. K. Anderson & Sons, Coffee Springs, Ala.

SORRY, we can't accept any additional queen orders this season. Thanks. O. K. Anderson, Coffee Springs, Ala.

WANTED — Comb and extracted honey. State best price. W. Klabuhn, Norwalk, R.F.D. 2, Ohio.

REQUEEN NOW

DADANT'S STARLINE HYBRIDS
Reg. U. S. Pat. Off.

JENSEN SAYS:
Requeening in early fall will assure good wintering, and insure a crop of honey next season, all other factors being normal. There are queens, and just queens; but the labor of installing is the same whether they are uniformly good, or mediocre. The bees themselves will soon decide the difference. We specialize in rearing only QUALITY QUEENS.

Dadant "Starline Hybrids		Jensen's "Magnolia State" Italians	
1-24	$1.35	1-24	$1.10
25-99	1.25	25-99	1.05
100-up	1.10	100-up	1.00

Clipped and Marked FREE. Prompt Delivery. Air Mail where expedient.

JENSEN'S APIARIES Macon, Miss. U.S.A.
Telephone 122M or 170J

G.S-P., THE BEES, AND US

(Continued from page 489)

thereof. Despite the weekly inspections there had been considerable swarming. Listening to the buzz of talk around the room one had a vivid mental picture of a district over which swarms of bees took off while their owners phoned in frantic pursuit of them. While one was phoning his neighbor that a swarm of bees had come from that direction someone would dash in to yell, "the bees have swarmed!"

In the excitement most of us forgot how to re-hive the bees. We just knew they had to be put back in the hive somehow or other. We learned, however, that one does not re-hive a swarm by putting it down in front of the vacated homestead and then, with the help of sheets of paper, **push** them back into the hive box in a stubborn effort to make them "go back to where they come from!" There was never a repeat performance of this particular stunt but it worked that time, to the amused amazement of professional beekeepers.

Despite similar experiences we amateurs got through our first season very well and felt fully repaid when our first honey crop was harvested. Not until some seasons later were we able to understand how lucky we had been that first year. And though we had lost a favorite book we had, by that time figured out the look on the Bee Man's face that had so puzzled us that first season. We wear it ourselves now, when someone tasting the lovely white honey, opines he'll get a few bees. "Nothing to it, is there? Let the bees work all summer and we have honey all winter."

Recognize it, beekeepers?

FLOWERS' QUALITY ITALIAN QUEENS

That stand the test for honey-gatherers; gentle; prolific; bred from hives making 300 pounds, or over of honey. Health certificate with each shipment. Prompt live delivery guaranteed.
QUEENS: 1 to 99, 75c 100-up, 65c 1 or 1000
TESTED QUEENS: ..... $1.50.

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Phone Juno 4-2830 or Juno 4-2837
JESUP, GEORGIA U.S.A.

Caucasian QUEENS
Booked up on Packages Orders.
Prices on request.
THANKS.
HOWARD WEAVER
NAVASOTA, TEXAS

BEE LINES TO THE EDITOR

(Continued from page 497)

ence has been that the need of such was caused by wearing 'high water' pants. And **only amateurs** shake bees on the ground **about their feet,** or wear 'bee nets'.

"And the **interesting** fact that a **'basic hive** usually consists of a **bottom brood box** with a **storage box** above it'.

"I have to admit that a good job of painting was done on the hives and that the hive foundations and entrance boards look nice,—but why the one-story hive on top of the six-story hive and again why the entrance feeder?" —A. Q., Calif.

[Regarding the one-story hive on top of the six-story hive, also the feeder, the only explanation we can offer is that the beekeeper happened to have these on hand when the photographer happened along. At least the picture is clear cut which is more than can be said of some pictures.—Ed.]

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QUALITY BRED ITALIAN QUEENS

Breeders selected from our Michigan Apiaries for high production and hardiness.

Queens .....$1.00 each
After May 20th ... .75 each

All queens shipped Air Mail. No more packages this season.

Walter D. Leverette Apiaries
P.O. BOX 364 FT. PIERCE, FLA.

NORMAN'S ITALIAN QUEENS

Untested 65c each

Prompt Service

BRIGHT 3-BANDED ITALIAN QUEENS. Highest quality, purely mated, good producers. Safe arrival and satisfaction guaranteed. State health certificate furnished.
TESTED QUEENS .....$1.30 each
3-lb. pkg. with queen ..... 3.75 each
4-lb. pkg. with queen ..... 4.75 each
Packages shipped F.O.B. or via Parcel Post.

JOHN A. NORMAN
ROUTE 1 GRADY, ALABAMA

"GULF BREEZE" ITALIAN QUEENS

PRICES
1-24.....90c each 25-100.....80c each
100 up.....75c each

BESSONET BEE COMPANY
Donaldsonville, La.

QUEENS — 75c — By Return Mail
BRIGHT 3-BANDED ITALIANS

2-lb. pkg. with queen $3.00
3-lb. pkg. with queen 4.00
Tested queens 1.50
All queens postpaid. Packages F.O.B.
Guaranteed in every respect.

NORMAN BROS. APIARIES
Ramer, Ala.

"The Australian Bee Journal"

Published by the Victorian Apiarists' Association at the beginning of each month. Subscription 10/-per annum plus 2/6 postage to overseas countries.

Box 167, Rainbow, Victoria, Australia

LET'S TALK ABOUT HONEY PLANTS

(Continued from page 479)

of this plant. There was a time when my bees had access to hundreds of acres of cornfields literally weighed down with bluevine. We then secured good crops of almost pure bluevine honey." I am happy to make this correction based on Mr. Perigo's years of experience with this honey, namely that bluevine honey is slow to crystallize when pure.

Milkweed. A box containing some bees covered with a strange-looking growth has been received from Mr. C. W. Browning of Tulsa, Oklahoma. Under the microscope, the growths turned out to be masses of pollen or pollinia from the flowers of milkweed. The stamens of this common plant have the pollen attached by slender stalks to black clips which fasten themselves to the hairs, claws, or mouth parts of a visiting insect. If the visitor is small, it cannot pull loose and dies a lingering death on the milkweed flowers. The honeybee luckily is strong enough to pull away the clip and flies away with it and the two pollen masses trailing from her legs. As she flies to another flower she brings about cross-pollination, but also picks up another clip or two. The bees sent by Mr. Browning had more than 20 such clips apiece clinging to them. Often the clips attach themselves to other clips forming long strings. It has been generally agreed that the honeybee is not seriously injured by this burden, which will in time fall off or be pulled off by other bees in the hive. Mr. Browning mentions that he found that his bees pull off at least part of the load at night, for he finds masses of the clips on his landing-board in the morning.

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Gleanings in Bee Culture
Medina, Ohio

BEES AND HONEY IN THE BIBLE

(Continued from page 462)

So far, references have been from the Old Testament and have been on honey and honeycomb with the one exception of Samson's swarm in the lion. In regard to bees, there are but four references in the Bible, including Samson's swarm. In Deuteronomy 1:44 we find that bees were as aggressive then as now: "Then the Amorites who lived in that hill country came out against you and chased you as bees do. . ." In Psalms 118:12, "They surrounded me like bees, they blazed like a fire of thorns, in the name of the Lord I cut them off"! And finally, in Isaiah 7:18, bees again are mentioned. The reference to bees and honey in Isaiah, indicate that bees and honey were known to the people in that day and that honey was considered a desirable sweet.

The New Testament is almost devoid of references to bees and honey. To be exact there are five such references. In Matthew 3:4, he describes John's food as "locusts and wild honey". This was John the Baptist and the description is given of him during his campaign of baptism to prepare the world for the coming of Jesus. Mark, in 1:6 also says the same thing about John the Baptist. In Luke 24:42 the risen Christ partakes of fish and honeycomb. Finally in Revelation an involved reference to honey is made in Chapter 10, verses 9 and 10. This is rather difficult for the layman to understand. Apparently the angels appeared to St. John and offered him a scroll or little book which he ate. Possibly the idea was that its message when digested would be sweet as honey for the faithful. These are the only New Testament references to bees and honey.

From the foregoing excerpts from the Bible, it should be clear that bees and honey played an important part in the lives of the people of antiquity. A more detailed study of these references would prove very fruitful to anyone, not only because of their connection with bees and honey, but because some of the great religious teachings of all time are contained therein.

CARNIOLAN and CAUCASIAN QUEENS

Now is a good time to requeen swarms and make increase with high producing and gentle Carniolan or Caucasian queens.

Queens ....$1.35 each, air mail

Discount on quantity.

$2.00 to foreign countries

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Box 87 LaBelle, Fla.

Italian Queens

EUGENE WALKER

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Booking orders now. Over 30 years a shipper. Send for Free Circulars.

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43 Years Continuous Service

Italian Package Bees and Queens

Our Specialty

Knights Landing, Calif.

QUEENS OF QUALITY — 90c

25 or more 80c

J. F. McVAY JACKSON, ALA.

THE AUSTRALASIAN BEEKEEPER

The senior beekeeping journal of the Southern Hemisphere provides a complete cover of all beekeeping topics in one of the world's largest honey producing countries. Published monthly by Pender Bros. Pty. Ltd. Box 20, P.O., Maitland, 3N, N.S.W., Australia. Subscription by Bank Draft or International M. O. 18/-(Approx. $2.15) per year, post free. Sample copy free on request.

Be Sure to Write Us if You Have Questions on Beekeeping that Bother You.

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Look for this Sign
When you Want
QUALITY AT LOW COST

Trade Mk. Reg.
U. S. Pat. Off.

KELLEY — "The Bee Man"

QUEENS

KELLEY ISLAND queens by the thousand are available now. If you are in a rush count on us for quick shipment by return air mail.

1-24 ..... 85c by prepaid air mail

25-up ..... 75c by prepaid air mail

THE WALTER T. KELLEY CO. Clarkson, Ky.

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and grow bigger every year.**

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